DEPARTMENT OF AGRICULTURAL ENGINEERING
UNIVERSITY OF ALBERTA

Calendar

of the

University

of

Alberta

Session 1930-31

Edmonton

J. Macgregor Smith

Calendar

of the

University

of

Alberta

Session 1930-31

Edmonton

1930 CALENDAR 1930

JANUARY

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1931 CALENDAR 1931

JANUARY

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Academic Calendar

1930

July—

2—Students of the Diploma Course in Nursing admitted to the University Hospital.

4—Summer Session opens.

August—

15—Summer Session closes.

15—Applications due for September Matriculation examinations at the office of the Chairman of the High School and University Matriculation Examinations Board, Parliament Buildings, Edmonton.

15—Last day for receiving applications for examinations on behalf of affiliated professional societies.

15—Last day for receiving applications for supplemental examinations.

28—Autumn Matriculation examinations begin.

31—Last day for receiving applications for admission to the Diploma Course in Nursing, autumn class, University Hospital.

September—

15—Students of the Diploma Course in Nursing admitted to the University Hospital.

15—Examinations of affiliated professional societies begin.

15—Supplemental examinations begin.

22, 23, 24—Registration of all first year students and new students in the second year.

25—Registration of all other students.

25—Lectures in first year courses begin.

26—Lectures in other courses begin.

October—

8—University Field Day.

10—Last day for receiving applications for special supplemental examinations.

23—First meeting, Students' Union (11:30 a.m.).

November—

1—Last day for graduate and B.D. students to adjust courses or submit subjects of investigation.

8—Last day for return on standing of first-year students.
10—Thanksgiving Day.

December—

21—First day of Christmas vacation.
30—Special supplemental examinations begin.
31—Last day for receiving applications for admission to the Diploma Course in Nursing, January class, University Hospital.

1931

January—

5—Lectures begin.
12—Students of the Diploma Course in Nursing admitted to the University Hospital.
26—Examinations of the Alberta Land Surveyors' Association.

March—

~~18—Ash Wednesday~~.
21—Last day of lectures in second and third years of Applied Science.
21—Last day for receiving applications for examinations on behalf of affiliated professional societies.
24—Final examinations begin in second and third years of Applied Science.

April—

3—Good Friday.
6—Survey School begins.
9—Final meeting, Students' Union (11:30 a.m.).
15—Applications due for the June Matriculation examinations at the office of the Chairman, High School and University Matriculation Examinations Board, Parliament Buildings, Edmonton.
15—Last day of lectures in Arts, Law, Medicine, Pharmacy, Agriculture, and Pre-engineering, third and fourth years of Applied Science.
15—Last day for submission of theses in competition for special prizes.
15—Last day for submission by graduate students of theses or reports of results of investigation.
20—Final examinations begin in all Faculties.
20—Examinations of the Institute of Chartered Accountants of Alberta begin.
21—Examinations of the following affiliated professional societies begin: The College of Physicians and Surgeons of Alberta, The

Law Society of Alberta, The Alberta Dental Association, The Alberta Land Surveyors' Association, The Alberta Association of Architects, The Alberta Association of Registered Nurses, The Veterinary Association of Alberta, The Alberta Optometric Association, and The Alberta Pharmaceutical Association.

May—

4—Survey School ends.

9—Charter Day.

14—Meeting of the University Senate.

15—Convocation for the conferring of degrees and awarding of prizes.

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EDWARD ANNAND CORBETT, M.A., Director, Department of Extension.
ERNEST WILSON SHELDON, M.A., Ph.D., Chairman, Freshman Committee.

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THE REVEREND SIDNEY BAINBRIDGE, M.A., B.D.
ERNEST LEROY CHURCHILL, M.A.

Elected Members to Retire June 27, 1933.

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GUTHRIE BROWN SANFORD, B.S.A., Ph.D.
OLIVER BOYD, M.D., C.M.

WILLIAM HARDY ALEXANDER, M.A., Ph.D., to retire March 9th, 1931.
JOHN ANDREW ALLAN, M.Sc., Ph.D., F.R.S.C., and
MORDEN HEATON LONG, M.A., and
MABEL PATRICK, M.A., Representatives of the Faculty of Arts and Sciences to retire March 8th, 1932.

JOHN MACGREGOR SMITH, B.S.A., and
JOHN DAWSON NEWTON, B.S.A., Ph.D., Representatives of the Faculty of Agriculture to retire March 8th, 1932.

JOHN JAMES OWER, B.A., M.D., C.M., and
ALEXANDER RUSSEL MUNROE, M.A., C.M., F.A.C.S., Representatives of the Faculty of Medicine to retire March 8th, 1932.

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JAMES ADAM, M.A., Representatives of the Faculty of Applied Science to retire March 8th, 1931.

GEORGE HOBSON STEER, M.A., Representative of the Faculty of Law to retire March 8th, 1931.

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FREDERICK WILLIAM HEATH, Representative of the Alberta Pharmaceutical Association.

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Chairman, Men's House Committee.

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Professor BURT.
Professor COAR.
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The REGISTRAR, Secretary.

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Professor MacEACHRAN.
Assistant Professor JONES.
†Assistant Professor NICHOLS, University Organist.
Mr. TAYLOR, Secretary.

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Professor NEWTON.
Professor SHANER.
Associate Professor WARREN.
Mr. DIXON CRAIG.
Miss MURRAY.
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Professor COAR.
Professor MISENER.
Associate Professor LANG.
Assistant Professor MOSS.
Assistant Professor MATTHEWS.
Miss McINTYRE.
Dean WEIR.
The FRESHMAN COMMITTEE.
Professor PITCHER.
Professor OWER.
Associate Professor EDDY.
Assistant Professor RUTHERFORD.
Dr. GREENE.
Dr. GILCHRIST.
Associate Professor FRYER.
Associate Professor SINCLAIR.
Mr. CORNISH.
The REGISTRAR.

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†On leave.

Organization of the University

ORGANIZATION OF THE UNIVERSITY

1.—History

The University of Alberta was created by an act of the first session of the first legislature of the province, 1906, which set up the legal framework on which the institution could be constructed. An amendment to the act, 1907, authorized the lieutenant-governor-in-council to appoint a president, and the government availed itself of this authority to select Dr. Henry Marshall Tory, who entered on his duties January 1st, 1908.

Under the University Act all resident graduates of British and Canadian universities were entitled to become members of convocation by registering before a specified date, and three hundred and sixty-four persons availed themselves of this privilege. The convocation thus constituted proceeded to the election of five members of Senate, and on the result of the poll being declared March 18, 1908, the government nominated its ten representatives to that body also. The late Mr. Justice Stuart, of Calgary, was at the same time elected chancellor.

The president and senate at their first meeting, March 30th, 1908, took the necessary steps to organize the faculty of arts and sciences, and decided to open classes in September. At a subsequent meeting held in Calgary on July 6th, four professors were appointed to chairs in the faculty. Classes were begun on September 23rd, with a registration of forty-five.

At the second session of the second legislature, November, 1910, a new university act was passed, the general effect of which was to separate the business management of the university from the supervision of its educational affairs. For the control of the former a board of governors was constituted, to consist of the chancellor and the president ex-officio, and nine members appointed by the lieutenant-governor-in-council. For the latter purpose the senate, in a considerably augmented form was continued. Convocation was further defined to include all graduates of the University of Alberta in addition to the original members under the act of 1906. The new board of governors was constituted in January, 1911, and the new senate in March. This form of university government has remained

substantially unaltered to the present, except that the lieutenant-governor-in-council nominates specifically the chairman of the board.

Up to 1911 the university classes were conducted in rented premises, first, a portion of the Queen Alexandra public school, afterwards, a part of the Strathcona High School, and it was in the latter that the first graduation exercises were held on May 16th, 1911. But during the summer Athabaska Hall was erected, and became available for use, partly as classrooms, partly as dormitory, in September. This was rapidly followed by Assiniboia Hall, 1912-13, and Pembina Hall, 1914. All of these buildings, after serving for a time both for classes and residential purposes, were finally devoted entirely to the latter.

Subsequent additions to the university buildings were the arts building, opened in October, 1915, the engineering laboratories in 1919 and the medical building in 1921, while in 1922, by an agreement with the city of Edmonton, the university secured the former Strathcona hospital. In 1929 this hospital became an institution functioning directly under the provincial department of health, but the university's rights were fully safeguarded in respect to the composition of the governing board and the provision for clinical instruction. The affiliated theological colleges, St. Stephen's and St. Joseph's, erected buildings on university sites in 1910 and 1927 respectively.

The original faculty of arts and sciences was first expanded by the creation of a department of extension in 1912, with the idea of achieving more fully the important function of reaching in its educational work the people of the province at large. In 1912 the faculty of law was created with the power of recommending to the senate candidates for the LL.B. degree. In the autumn of 1913 the department of civil engineering and allied subjects ceased to form a portion of the original faculty of arts and sciences, and was erected into the faculty of applied science. At the same time, October, 1913, instruction began in the faculty of medicine, which finally was enabled, largely owing to the generosity of the Rockefeller Foundation in placing half a million dollars at the disposal of the university for medical teaching purposes, to offer a complete medical course in 1913. The fifth faculty of the university came into being in 1915 with the creation of the college of agriculture, for the growing needs of which it became necessary in the spring of 1919 to acquire a tract of six hundred acres a short distance south of the original university property.

The five faculties mentioned above received their executive officers in the persons of the following deans: the faculty of arts, professor

Kerr, 1914; the faculty of agriculture, professor Howes, 1915; the faculty of medicine, professor Rankin, 1920; the faculty of applied science, professor Boyle, 1921; the faculty of law, professor Weir, 1926.

In addition to the faculties proper provision was made for certain other branches of instruction as follows. Dentistry was organized under the faculty of medicine in 1917, and was enabled in 1924 to offer a complete five years course leading to a degree. In 1930 Dentistry was organized as a School under the Faculty of Medicine. Pharmacy, which began its work as a department of the faculty of medicine in 1914, was in the spring of 1917 erected into a school of pharmacy, attached to the faculty of arts and sciences. Other schools which have grown up under the same faculty are the school of commerce (1928), the school of education (1928), and the school of household economics (1928), while the school of nursing is attached to the faculty of medicine.

In 1920 the province and the university combined to form a scientific and industrial research council for the general purpose of conducting economic research into the resources of the province of Alberta, and two research professorships were created under this committee to study the questions of fuels and road-materials.

The university responded in common with the country at large to the special demands of the years 1914-1918, and sent into various branches of the military and naval forces of the empire some four hundred and seventy-five representatives, of whom eighty-two died in the war. Their memory was given tangible recognition by the dedication of the alumni memorial organ and a bronze tablet in the arts building on November 11th, 1925, while the services of all participants were permanently recorded on the roll of honour at the entrance to Convocation hall, opened to public inspection November 11th, 1928.

After twenty years of public service as president of the university, Dr. Henry Marshall Tory resigned in April, 1928, to become chairman of the national research council of Canada. The government of the province nominated to succeed him on September 1, 1928, Dr. Robert Charles Wallace, formerly professor of geology in the university of Manitoba.

Mr. Justice Stuart, first chancellor of the university, died on March 5, 1926, after a continuous term of eighteen years in his distinguished office. He was succeeded by the late Mr. Justice Beck, who filled out the balance of his term. In April, 1927, Dr. A. C. Rutherford, first premier of the province and author of the original act establishing the university, was elected by convocation to the chancellorship.

ORGANIZATION

In May, 1929, the university celebrated its coming of age by appropriate ceremonies in which the first president and a large number of the alumni participated.

2.—Government

The scheme of government of the university as determined by the act of 1922, with a few subsequent amendments, is as follows:

(I) Visitor of the university.

The lieutenant-governor of the province is ex-officio the visitor of the university, and forms the highest official tie linking the university to the civil administration of the province.

(II) The Chancellor of the university.

The chancellor of the university is elected for a four year term by the members of convocation as determined by the act of 1906, with the addition of all graduates of the university of Alberta. The chancellor is the chairman of convocation and confers all degrees. He is ex-officio a member of the board of governors and of the senate.

(III) President of the university.

The president of the university is the direct appointee of the government of the province, the appointment being made by the lieutenant-governor-in-council. He is ex-officio a member of the board of governors and the senate; also of all faculty councils. He is also, in virtue of his office, chairman of the latter on any occasion when he is present.

He is entrusted with general supervision over and direction of the teaching work of the university, and makes recommendations to the board of governors as to all appointments to and all promotions in and removals from the teaching staff of the university.

(IV) The Board of Governors.

The board of governors is a body corporate for legal purposes under the name and style of "The Governors of the University of Alberta." It consists of the chancellor and the president of the university ex-officio, and a chairman and nine other persons appointed by the lieutenant-governor-in-council.

The government, conduct, management, and control of the university and of its property, revenue, business, and affairs are vested in the board, and it also possesses residuary powers in respect of anything or person not otherwise specifically provided for in the act.

It controls therefore all appointments to and removals from and promotions within the teaching and administrative staff, subject to the recommendation of the president in these regards. It provides for the maintenance of existing buildings and the erection of new

buildings, and is authorized to purchase and acquire such property as it may deem necessary for the purposes of the university. It fixes and determines the various fees charged in connection with university courses, and makes financial provision for the establishment of new faculties and departments.

The board makes an annual report of all its transactions to the lieutenant-governor-in-council, and this report is transmitted to the legislative assembly of the province by the minister of education.

(V) The Senate.

The senate of the university is composed as follows:

(a) The ex-officio members are the chancellor, the president, the chairman of the board of governors, the president or head of every affiliated college other than preparatory schools, the deans of the faculties of the university, the provost, all ex-chancellors of the university, the senior principal of the provincial Normal schools, the deputy minister of education, the principal of the provincial institute of technology, the deputy minister of agriculture, the deputy minister of public health, the director of the university department of extension, and the chairman of the freshman committee.

(b) The faculties of the university are represented by elected members to the extent of one such member for every ten members of a faculty council, or portion of ten greater than five;

(c) Each society or association incorporated by the legislature of the province, whose examinations for status therein are conducted by the university is represented by one member;

(d) Ten members are elected by the members of convocation from among themselves, five being chosen every other year.

The duties of the senate include a very wide range which may be conveniently summarized as covering the approval of all educational schedules or programmes, the establishing and conferring of degrees, and student regulation and discipline. The senate is also a body authorized to hear and determine appeals from decisions of the faculty councils upon applications by memorial from students and others.

(VI) Convocation.

Convocation is made up.

(a) of the surviving members of the original group of three hundred and sixty-four who registered under the act of 1906, together with all such persons who have been admitted *ad eundem gradum* in the university of Alberta and have become duly registered;

(b) of all graduates of the university of Alberta.

Convocation elects the chancellor and the ten elective members

of the senate and is authorized, if fifteen of its members by writing demand a meeting, to require the chancellor to convoke the same, but it must be for a specific object duly set forth in the letter of demand, and no other subject may be discussed at such a meeting.

(VII) Faculty Councils.

Each faculty in the university has a faculty council of its own. This council consists of the president, the dean of the faculty, the professors and associate professors, and such other members of the teaching staff of the faculty as the board of governors shall determine.

The powers and duties of each such faculty council include the fixing and determining, subject to the approval of the senate, of the courses of study falling within its range, the setting of examinations and making returns thereon to the senate, the dealing with petitions and memorials from students registered in that faculty and the arranging of time-tables for lectures and laboratories.

The General Faculty Council consists of the president, the deans, the heads of departments in all the university faculties.

It concerns itself with inter-faculty relations and with larger questions of university policy, both educational and disciplinary.

UNIVERSITY LIBRARY

The library of the university contains about 32,500 volumes.

The main reading room is in the arts building; during the session about 1,200 of the books required in connection with the various classes are kept on open shelves in this room for the convenience of students. The stack room is below the reading room, and all students may borrow books from it, but only senior students are allowed to study in the stack room.

The medical building has its own reading room, in which the medical section of the library is housed, and the agricultural building has a similar separate reading room.

The law library occupies a separate room in the arts building, and a reading room for research workers has been established.

The library subscribes to a large number of the most important periodicals which are available for consultation.

UNIVERSITY BOOKSTORE

For the convenience of students, the university maintains a book store where text-books prescribed in the university calendar may be obtained. Stationery, drawing materials, university sweaters, pennants and other accessories are also kept in stock.

Matriculation

CLASSIFICATION OF STUDENTS

The courses of study in the University are open to men and women on equal footing.

Except under special circumstnaces no student under sixteen years of age will be admitted to the first year, or under seventeen to the second year.

No student, except in the Faculty of Agriculture, will be permitted to return to the University for a second session with any matriculation condition.

Students are classified as graduate, undergraduate, conditioned, partial, special and auditors.

Graduate students are those who hold the Bachelor's degree (B.A., B.Sc. or B.Com.), and are either pursuing special studies in advanced courses, or have been formally admitted upon the recommendation of the Committee on Graduate Studies, to candidacy for the Master's degree, or for the degree of B.Educ.

Undergraduates are matriculated students who are taking a full undergraduate course leading to a degree. In order to become undergraduates, candidates must have passed the full matriculation examination of the University or some other equivalent examination.

Conditioned students are those who, having failed in not more than one subject of their matriculation examination, are actually taking a full undergraduate course leading to a degree, and are entitled to obtain undergraduate standing on completing their matriculation. Students, throughout the University, except in the Faculty of Agriculture, are required to clear matriculation conditions and deficiencies before returning to the university for a second session.

Partial Students. Students who are proceeding to a degree, but who are not registered for a full undergraduate course, are partial students.

Special Students are those who, not belonging to one of the above classes of students, are pursuing the study of particular subjects. Such students may, subject to the approval of the Committee on Admissions, attend classes without previous examination, but any classes so taken cannot be credited towards a degree.

Auditors. In special circumstances, certain persons may attend occasional lectures in a course, and be registered as auditors, provided the consent of the instructor in the course is obtained.

"A" LANGUAGE COURSES

For the convenience of students who have not had the opportunity of studying languages, the University at present offers instruction to beginners in French, German, Greek and Latin (i.e., French A, German A, Greek A, Latin A). This additional work constitutes a serious handicap, and no student who has the opportunity of preparing the languages at high school should postpone them until he reaches the university. The pass mark in the A language courses is 65% and a special fee is charged for them.

Students in exercising their second language option in the first year may elect a beginner's language course in German or Greek for which university credit will be given, provided a mark of 65% is obtained on the year's work. University credit, however, will not be given for these beginner's courses in German or Greek if taken to complete matriculation requirements, nor can these courses be taken to satisfy the prescribed language requirement of the first year. The above courses when taken for matriculation purposes are designated as German A and Greek A, but when taken for university credit they are designated as German A-1 and Greek A-1.

TUTORIAL ASSISTANCE IN ENGLISH

Attention is directed to the work of the Committee on the Use of English by Students. It is the duty of this committee to afford individual tutorial help to students whose English is considered by their instructors, or has been felt by themselves, to be deficient. Beginning with the session 1930-31 a course will be offered in English, similar to the "A" languages above. The course is primarily for foreign-speaking students and no credit is given.

MATRICULATION EXAMINATIONS

Examinations for entrance to the University are conducted twice each year, in June and September, under the control of the High School and University Matriculation Examinations Board. Applications for these examinations should be made about two months before the date of examination to the Chairman of the High School and University Matriculation Examinations Board, Department of Education, Government Buildings, Edmonton. The subjects of examination follow.

MATRICULATION REQUIREMENTS

The various lists of Matriculation subjects are as follows:

(a) Students who are uncertain as to what faculty they wish to

enter are advised to select the followng subjects, as credit in these units will give matriculation standing for any faculty.

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1.
6. Arithmetic 1.
7. Latin 1 and 2.
8. French 1 and 2; or German 1 and 2.
9. Physics 1.
10. Chemistry 1.

(b) *For the Degrees of B.A., B.Sc. in Arts, B.Sc. in Household Economics, and B.Com.* (Faculty of Arts and Sciences), twenty-one courses as offered in three years of High School work, or the equivalent. The decision as to what will be accepted as equivalent rests with the Committee on Admissions of the University. The twenty-one courses are as follows:

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1
6. Arithmetic 1.
7. Latin 1 and 2; or Greek 1 and 2; or French 1 and 2; or German 1 and 2.
8. Four courses from Physics 1, Chemistry 1, Agriculture 1, Agriculture 2 or Art 1, Geography 1, Languages. If Geography is offered it must be accompanied by Physics or Chemistry or both these subjects.

   Students having the above and the following courses of fourth year high school are admitted to the second year: English Composition 4, English Literature 4, Algebra 3, Geometry 3, Trigonometry 1, the third course of one language and three of History 4, Chemistry 2, Physics 2, Biology 1, French 3, Latin 3, German 3, Greek 3.

Students intending to enter the School of Household Economics should note that Chemistry is a compulsory subject in both first and second years and should select their high school matriculation options with a view to meeting this demand.

Students in the Faculty of Arts and Sciences are required to clear matriculation conditions and deficiencies before returning to the university for a second session.

MATRICULATION REQUIREMENTS

Beginning with the registration of the 1930-31 *session students in the Faculty of Arts and Sciences will be permitted to register with one matriculation condition only.*

Students entering with Grade XII standing must, in their first year of university study, select a junior laboratory science.

Students intending to take the combined course in Arts and Medicine must secure credit in matriculation German.

Students are not permitted to register in the combined course in Arts and Applied Science with any condition.

(c) *For B.Sc. in Pharmacy* (Faculty of Arts and Sciences):

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1
6. Arithmetic 1.
7. Latin 1 and 2.
8. Chemistry 1.
9. Physics 1.
10. Two courses from Agriculture 1, Art 1 or Agriculture 2, Geography 1, Languages.

Students having the above subjects and the following subjects of fourth year High School are admitted to the second year: English Composition 4, English Literature 4, Algebra 3, Geometry 3, Trigonometry 1, Chemistry 2, Physics 2, Latin 3, one of History, Languages or Sciences not already prescribed.

Attention is called to the rules of the Faculty of Arts and Sciences cited under (b).

(d) *For the Licentiate Course in Pharmacy* (School of Pharmacy):

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1
6. Arithmetic 1.
7. Latin 1 and 2.
8. Four courses from: Physics 1, Chemistry 1, Agriculture 1, Art 1 or Agriculture 2, Geography 1, Languages.

Students in the School of Pharmacy are required to clear matriculation conditions and deficiencies before returning to the university for their second session.

Beginning with the registration of the 1930-31 session students in the School of Pharmacy will be permitted to register with one matriculation condition only.

(e) *For LL.B.* (Faculty of Law):

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1
6. Arithmetic 1.
7. Latin 1 and 2.
8. Four courses from: Physics 1, Chemistry 1, Agriculture 1, Agriculture 2, French 1 and 2, German 1 and 2; and
9. Two years in Arts.

Students entering Law, who plan to take Grade XII, should note under (b) the required subjects in fourth year High School.

Attention is called to the rules of the Faculty of Arts and Sciences cited under (b).

(f) *For B.Sc. in Engineering or Architecture* (Faculty of Applied Science):

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1.
6. Arithmetic 1.
7. Latin 1 and 2, or Greek 1 and 2, or French 1 and 2, or German 1 and 2.
- *8. Physics 1.
9. Three other courses from: Chemistry 1, Geography 1, Agriculture 1, Art 1, Languages, Shop Work, Manual Training.

Students may be admitted to the first year upon the completion of the pre-engineering year or the following subjects of Grade XII: English Composition 4, English Literature 4, Algebra 3, Geometry 3, Trigonometry 1, Physics 2, the third course in a language and History 4 or Biology 1.

Students who have completed the subjects of Grade XII as listed formerly in the preceding connection will be admitted.

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*Students who present credit in Chemistry 1 as required previously will be admitted.

MATRICULATION REQUIREMENTS

Attention is called to the following rules of the Faculty of Applied Science:

(1) Students in the Faculty of Applied Science will not be permitted to register conditioned in more than one of the 21 matriculation units, and no student will be permitted to enter the Faculty with a condition in Mathematics.

(2) In the Faculty of Applied Science students entering the Pre-Engineering year with a condition or deficiency must clear this before registering for the second session.

(g) *For D.D.S.* (Faculty of Medicine), *and for M.D.* (Faculty of Medicine):

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1
6. Arithmetic 1.
7. Latin 1 and 2.
8. French 1 and 2; or German 1 and 2.
9. Chemistry 1.
10. Physics 1.
11. The subjects of first year Arts or Grade XII.

Attention is called to the following rules of the Faculty of Medicine:

In the courses leading to the degrees of M.D. and D.D.S. a student is not permitted to enter the second year until all the matriculation subjects (including languages) and all the subjects of the first year have been passed.

Beginning with the registration of the 1930-31 session students in the Faculty of Medicine (including Dentistry) will not be permitted to register with more than one matriculation condition, which condition is restricted to a language.

No student shall be permitted to enter first year Medicine or Dentistry from first year Arts or the pre-engineering year in Applied Science with any matriculation or first year condition.

Both Medical and Dental students are required to clear matriculation conditions or deficiencies in one year before registering for the second time.

(h) *For the Diploma Course in Nursing* (School of Nursing, Faculty of Medicine): Grade XI or its equivalent.

For B.Sc. in Nursing (School of Nursing, Faculty of Medicine): As in (b) above.

Students in Nursing should consult the special announcement of the School of Nursing, which may be secured on application either to

the Registrar's Office or to the Superintendent of Nurses, University Hospital.

(i) *For B.Sc. in Agriculture* (Faculty of Agriculture), eighteen courses as offered in three years of High School work or the equivalent. The eighteen courses are as follows:

1. English Composition 1, 2 and 3; English Literature 1, 2 and 3.
2. History 1, 2 and 3.
3. Algebra 1 and 2.
4. Geometry 1 and 2.
5. General Science 1.
6. Arithmetic 1.
7. Three courses from the Science Group.

Students from the Provincial Schools of Agriculture will be admitted to Second Year Agriculture upon presenting:

(1) A certificate of qualification from any of the Provincial Schools of Agriculture.

(2) A certificate covering the following subjects:
English Composition 3, English Literature 3.
History 3.
Algebra 1 and 2.
Geometry 1.
Arithmetic 1.

Students from the Provincial Schools of Agriculture presenting a certificate of qualification in Agriculture, but having incomplete matriculation may be given matriculation credit for the following subjects: Agriculture, Chemistry, Physics. Such students with deficiencies may make arrangements to complete matriculation at the School of Agriculture at Olds, or at the School of Agriculture at Vermilion, or may enter the University upon the presentation of a certificate of qualification from a School of Agriculture, but will be required to complete the Matriculation subjects listed in (2) before entering the final year.

Students of mature age who have not yet completed matriculation as outlined above may present any special ground which might entitle them to consideration for admission.

(j) *For B.H.Ec.* (Faculty of Agriculture) the entrance requirement is the same as for students from the Schools of Agriculture who enter the B.Sc. course in Agriculture.

It should be noted that lectures in Agriculture begin on the same dates as in other Faculties. (See attendance rules, pp. 57.)

PERCENTAGE REQUIRED

The pass mark, in harmony with the requirements of the Department of Education, is 50% in each course. The Departmental regulations regarding spelling apply to matriculation candidates.

Academic Honours

FIRST CLASS GENERAL STANDING

Those students, other than Honours students, who, in the work of any one year, attain an average mark of not less than eighty-five per cent., are awarded First Class General Standing.

DEGRESS WITH HONOURS

See regulations under the Faculty of Arts and Sciences.

DEGREES WITH DISTINCTION

See regulations under the Faculty of Law.

PRIZES

The Canadian Northland Resources Prize, of the value of $25.00 is offered annually by Mr. J. F. K. English, B.A. The prize is open to all undergraduates of the University of Alberta, and is to be awarded on the basis of an essay of not more than 8,000 words dealing with some phase of the northland of Canada. The territory open for investigation by the students will include the mainland territory lying north of the 55th parallel of latitude, bounded on the west by the Rocky Mountains and on the east by the western shore of Hudson Bay. The material of the essay must be based in part at least on actual observation in the field, and is open to students whose work has taken them north of the 55th parallel of latitude. The judges shall be a committee of three chosen by the President of the University, and their decision shall be final. The essay must be submitted to the President's Office in typewritten form not later than February 1st.

Applied Science

The Association of Professional Engineers of Alberta offers awards of $50.00 cash to be made to one student in each of the Civil, Electrical, Mining, and Chemical Engineering Departments on the basis of individual talent, application and diligent study. The Association also offers a prize of $50.00 for the student making the best record in the first three years of Applied Science, who, after the completion of his work in the University of Alberta, gives proof of registration in Mechanical Engineering at some other university.

Biochemistry

The Ewart Beresford Memorial Prize of the value of $25.00 is offered annually by Mr. T. F. Beresford, B.A., in memory of his son, Ewart Beresford. It is awarded yearly to the student with the best average mark in the advanced Biochemistry Courses 51 and 52, and whose standing is satisfactory to the Faculty Council.

Canadian Officers Training Corps

The Alberta Military Institute offers two prizes to the cadets of the University of Alberta Contingent, C.O.T.C., as follows:

1. A prize of the value of $25.00 to the cadet who passes highest in the C.O.T.C. examination for "A" Certificate.
2. A prize of the value of $50.00 to the cadet who passes highest in the C.O.T.C. examination for "B" Certificate.

Chemistry

The Ewart Beresford Memorial Prize of the value of $25.00 in books is offered anuually by Mr. T. F. Beresford, B.A., in memory of his son, Ewart Beresford. It is awarded to the graduating student in the Faculty of Arts and Sciences who takes the highest average mark in Biochemistry 61 and three senior courses in Chemistry, and whose standing is satisfactory to the Faculty Council.

Classics

The Jane Alexander Memorial Prize in Latin of the value of $10.00 is offered annually by Professor W. H. Alexander in memory of his mother. It is awarded on the basis of the regular work in Latin of the second year, and is given to the student making the highest mark in the usual term and final examinations of that year.

Dentistry

A prize of books to the value of $20.00 is offered by Dr. H. E. Bulyea to the student having the best general standing in the work of the second year of Dentistry.

In making this award consideration will be given not only to scholastic attainments, but also to character and interest in student activities.

English

The Samuel Richard Hosford Memorial Prize, of the value of $15.00 in books is awarded to the undergraduate student making the best record in English 53.

The Arthur Blow Condell Prize of the value of $25.00 is offered by Dr. W. N. Condell, and is awarded to the undergraduate student making the best record in English 1, providing such student secures first class standing in English 1 and that his standing in his other courses is satisfactory to the Faculty Council.

PRIZES

Geology

The Jane Alexander Memorial Prize in Geology, of the value of $10.00 is offered annually by Professor W. H. Alexander in memory of his mother. It is awarded on the basis of the regular tests and examinations in Geology 1.

The Stutchbury Research Prize, of the value of $25.00 is offered by Howard Stutchbury, Esq., to be awarded at the Spring Convocation to a fourth year student in the department of Geology or Mining Engineering for a paper on original work. Originality of method and of presentation will be the basis of award, which will be made by a committee of three, chosen from the members of the Scientific and Industrial Research Council of Alberta.

History

The John Henry Stanley Memorial Prize, of the value of $25.00 in books is offered annually by Mr. George F. G. Stanley, B.A., in memory of his father, to be awarded annually to the student standing highest in Canadian History, provided this student is taking a full year's work and passes all his other subjects.

The History Club Prize of books of the value of $15.00 is offered by the History Club of the University of Alberta, to the student making the best record in History 2, provided such student receives first class standing on his year's work in History and passes in all other subjects.

The Gordon Stanley Fife Memorial Prize, of the value of $25.00, is offered by Professor A. L. Burt in memory of his colleague, to be awarded to the graduating student who has taken the highest average mark in two or more Senior History Courses.

Household Economics

The McLaren-Cook Memorial Prize in Household Economics, of the value of $15.00 in books is offered by Miss Janet Cook and Assistant Professor A. J. Cook. The award will be made to the student who has: (a) the best record in the subjects of Household Economics of the final year, provided a standing of not less than 85% is obtained in these subjects; (b) satisfactory standing in the other subjects of that year.

Law

The Carswell Prizes in the Faculty of Law are offered annually by the Carswell Company, Limited, Law Publishers, of Toronto. These are to be awarded to the students obtaining the highest general standing in their respective years.

To the student securing the highest average in the first year, books to the value of Twenty Dollars.

To the student securing the highest average in the second year, books to the value of Thirty Dollars.

To the student securing the highest average in the third year, books to the value of Fifty Dollars.

The Raymond James Memorial Prize.—A prize of the value of $25.00 is offered annually by Mrs. E. L. FitzSimon, LL.B., 1926, in memory of her brother, to be awarded to the final year student in Law, who has obtained the highest mark for an essay appertaining to equity, the subject to be selected each year by the Dean of the Faculty. The subject of the essay for this prize for 1930-31 is: "*Frustration and Unjust Enrichment.*" Essays must be in the hands of the Registrar of the University not later than May 1, 1931. Essays should be typewritten. The copy of the essay winning the prize is to become the property of the University. The right to withhold the prize is reserved in the event of no sufficiently meritorious essay being submitted.

The National Trust Prize.—A prize of books of the value of $30.00 is offered by the National Trust Company to the student of the graduating class in Law who has made the best record in the examinations in Equity 1, Equity 2, Real Property 2, Real Property 3 and Wills and Administration. A student is ineligible for this prize if his average in the examinations of the second and third years of his law course is less than 75%.

Mathematics

A Prize in Mathematics 1, of the value of $10.00 is offered by Professor E. W. Sheldon.

Medicine

The Prize in the History of Medicine is offered by Dr. H. C. Jamieson, for an essay on some phase of the earlier development of Anatomy or Physiology.

Mining

The Canadian Institute of Mining and Metallurgy offers a prize of the value of $25.00 to the student in the fifth year of Mining Engineering who presents the best description of an actual piece of work in Mining Engineering, research or otherwise, that the student has been engaged on or has assisted in.

Also a prize of $15.00 open under the same conditions to students in the fourth year of Mining Engineering.

MEDALS

Moderns

The Vallée French Prize of books is offered by Professor A. Vallée of Laval University, in remembrance of the Honourable P. J. O. Chauveau, first Prime Minister of the Province of Quebec. It is open to undergraduates registered in French 1, to be awarded on the results of the year's work.

The Arthur Blow Condell Prize in French, of the value of $25.00 is offered by Dr. W. N. Condell, to the student enrolled in French 2, who makes the best average record in the tests and final examination of the course. Candidates must obtain at least first-class standing based upon consideration of both oral and written examinations.

Nursing

A prize of books is offered by Dean W. A. R. Kerr for the highest standing in the work of the fourth year of the degree course in nursing.

The prize in intermediate year Nursing is offered by Professor E. L. Pope, to be awarded for general proficiency in the intermediate year of the Diploma course.

The Senate and Board of Governors of the University offer book prizes as follows:

(a) For general proficiency in senior year nursing.
(b) For highest standing in examinations in senior year nursing.
(c) For highest standing in the practical work of senior year nursing.

Philosophy

The Halley Hamilton Gaetz Memorial Prize is offered by Mr. W. R. Wees, M.A., B.Ed., consisting of a set of books, to be awarded to the student in junior years taking the highest marks in Philosophy 2, the granting of the prize to any student to be conditional upon his registration in a full year's work, and to his obtaining not less than 80% of the possible marks in the subject.

MEDALS

Agriculture

The Governor-General's Gold Medal is offered by His Excellency the Governor-General of Canada, for the highest standing in the two senior years of the Faculty of Agriculture.

Arts and Sciences

The Women's University Club Gold Medal is offered by the Women's University Club of Edmonton, to be awarded to that student in the graduating class of the Faculty of Arts and Sciences, general course,

who takes the highest standing in the eight senior courses required in the third and fourth years, provided that an average mark of not less than seventy-five per cent. be obtained.

English

The Alexander Cameron Rutherford Gold Medal is offered by the Honourable Alexander Cameron Rutherford, and is open for competition to students in the graduating year, reading for honours in the Department of English.

Law

The Chief Justice's Gold Medal is offered by the Honourable Horace Harvey, Chief Justice of Alberta, for highest standing in the work prescribed for the LL.B. degree, provided that the student obtains an average of not less than 75%.

Mathematics

The James Ramsey Gold Medal is offered by James Ramsey, Esq., and is open to students in the graduating year, reading for honours in the Department of Mathematics.

Medicine

The Moshier Memorial Medal is offered by the Volunteer Overseas Medical Officers' Association of Edmonton, in memory of the late Lieutenant-Colonel H. H. Moshier, M.B., to be awarded for general proficiency in the Faculty of Medicine, upon completion of the courses offered at this University.

Moderns

Le Club Lavérendrye Gold Medal in French is offered annually by Le Club Lavérendrye, to be awarded to the student who receives the highest standing in the general courses in French of the third and fourth years, provided that the student's record is considered satisfactory by the Council of the Faculty of Arts and Sciences.

Le Ministére des Affaires Etrangéres Bronze Medal in French.— A Bronze Medal in French is offered by the French Consul for Western Canada, M. Paul Suzor, to be awarded to the undergraduate student enrolled in a senior French course who takes the highest standing in a special examination covering: (a) Oral French; (b) Free Composition in French.

Nursing

The President's Gold Medal in Nursing is offered by President R. C. Wallace, to be awarded for general proficiency in the three years of the Diploma course.

UNDERGRADUATE SCHOLARSHIPS

Pharmacy

The Pharmaceutical Association Medals are offered by the Alberta Pharmaceutical Association.

(a) A gold medal to the student making the highest average mark in all subjects of the final year of the Licentiate Course, provided that the mark obtained in any subject does not fall below 60% and that the average obtained in all subjects is not less than 75%.

(b) A gold medal to the student making the highest average mark in all subjects of the final year of the Degree Course, provided that the mark in any subject does not fall below 60% and that the average obtained in all subjects is not less than 75%.

Political Economy

The Duncan Archibald McGibbon Gold Medal in Political Economy is offered by Dr. Duncan A. McGibbon, to be awarded to the student who receives the highest average standing in four courses in the Department of Political Economy, one of which must be a course in the general principles of Economics, and provided that the student's record is considered satisfactory by the Faculty of Arts and Sciences.

BURSARIES, SCHOLARSHIPS AND FELLOWSHIPS

1.—MATRICULATION

Women's University Club Matriculation Scholarship

The Women's University Club Scholarship of $75.00 is open to women students only, on the results of the June Grade XII examinations. It is awarded for highest standing in English (Literature and Composition), History, French and Latin, provided the student passes at least three other units, making a total of at least eight fourth-year High School units, and obtains a mark of 75% in each of the four subjects named. The scholarship is payable to the student in attendance at the University during the session following the award, and will be applied towards defraying the fees of tuition.

The P. Burns Scholarship

The P. Burns Scholarship is offered annually by Mr. P. Burns, of Calgary, of the value of $150. It is awarded for the highest standing obtained by a student in Calgary on the Grade XII examinations, and is payable after the student is in actual attendance at the University.

The Daughters of the Empire Matriculation Bursary

The Daughters of the Empire Bursary of $1,200.00 ($300 a year for four years), is offered by the Imperial Order of the Daughters of the

Empire as a part of its War Memorial. It is awarded to the candidate in Matriculation examinations, who, in the judgment of the Committee, best meets the purpose in view of the foundation of the Bursary. The candidate must be the son or daughter of a killed or permanently disabled soldier, sailor, or member of the air force. It is tenable at the University of Alberta, where a rebate of $25.00 on tuition fees is allowed to the holder of this scholarship.

2.—UNDERGRADUATE AND GRADUATE

Agriculture

The Senate and Board of Governors of the University offer a scholarship of the value of $50.00 to be awarded on the basis of the work of the first year in Agriculture, provided that an average of not less than 75% be obtained on the work of the year. Further, the award will be contingent upon the student's proceeding with the work of the second year and will be paid only after the student has been in actual attendance in the second year of the course.

Applied Science

The Senate and Board of Governors of the University offer a scholarship of the value of $50.00 to be awarded on the basis of the work of the first year in Applied Science, under the same regulations as that offered in the Faculty of Agriculture.

Arts and Sciences

The Women's University Club Scholarship, of the value of $50.00, will be awarded to the woman student who takes the highest standing in the work of the First Year of the Faculty of Arts and Sciences, provided that an average of not less than 75% be obtained on the work of the year. Further, the award will be contingent upon the student's proceeding with the work of the second year and will be paid only after the student has been in actual attendance in the second year of her course.

The Senate and Board of Governors of the University offer a scholarship of the value of $50.00 for competition among the men students of the first year in Arts, on the same basis as in Agriculture.

The Edmonton Section of the Council of Jewish Women offers annually a scholarship of the value of $50.00 to the student who takes the highest standing in the work of the Second Year of the Faculty of Arts and Sciences, provided that an average of not less than 75% be obtained on the work of the year. Further, the award will be contingent on the student's proceeding with the work of the

Third Year and will be paid only after the student has been in actual attendance in the third year of his, or her, course.

Dentistry

The Calgary Dental Society offers a scholarship to the value of $50.00 to be awarded to the student having the highest general standing in all subjects during the second, third and fourth years of Dentistry at the University of Alberta, to be awarded only after the student has registered in the fifth year of Dentistry at the University of Alberta.

The Alberta Dental Association offers two prizes each to the value of $50.00, to be awarded as follows:

1. To the student with the highest general standing for the work of the third year in Dentistry.
2. To the student with the highest general standing for the work of the fifth year in Dentistry.

These two prizes to be awarded at the end of the third and fifth years respectively.

In making these awards, consideration will be given, not only to scholastic attainments, but also to character, and interest in student activities.

Law

The Senate and Board of Governors of the University offer a scholarship of the value of $50.00 for competition among the students of the first year in the Faculty of Law, on the same basis as in Agriculture.

Medicine

The Scholarships of the College of Physicians and Surgeons of the Province of Alberta are five in number of the value of $50.00 each, and will be awarded as follows:

1. One to the student taking the highest average mark in the work of the freshman year.
2. One to the student taking the highest average mark in all the courses in Anatomy of the second and third years.
3. One to the student taking the highest average mark in all courses in pure Physiology of the third and fourth years.
4. One to the student taking the highest average mark in Surgery at the end of the final year.
5. One to the student taking the highest average mark in Medicine at the end of the final year.

Pharmacy

Pharmaceutical Association Scholarships are offered by the Alberta Pharmaceutical Association:

1. A scholarship of $40.00 to the student making the highest average mark in all subjects of the first year of the Licensing Course, provided that the mark obtained in any subject does not fall below 60%.
2. A scholarship of $40.00 to the student making the highest average mark in all subjects of the third year of the Degree Course, provided that the mark obtained in any subject does not fall below 60%.

English

The Aikins Scholarship in English Language and Literature, the gift of the late Sir James Aikins, is of the value of $125.00 per annum. It is open to students entering upon their final year who have pursued the study of English throughout the first three (or, if honours students, four) undergraduate years; provided that such students shall have obtained satisfactory standing in English 1 or its equivalent; not less than seventy-five per cent in English of the second year, and an average of not less than seventy-five per cent in senior English courses. In no English course must a student fall below second class standing.

The selection of the scholar will be made by a committee appointed by the President; the committee to consider not only the academic standing of the candidate, but also evidence of intellectual grasp and of proficiency in expression, as displayed in such essays or other tests as the committee may impose.

The Lloyd Hartnoll Bishop Memorial Fellowship in English Literature has been founded by E. T. Bishop, Esq., and is to be conferred on the graduating student who, during his undergraduate course, has shown unmistakable evidence of literary bailty. The present emolument of this fellowship is $200.00. Attention is called to the fact that this is a special award and not necessarily given each year.

French

French Government Bursary. Since 1923, the French Government has offered a bursary of the approximate value of 11,000 francs, to provide for a year's study in a French University. The award is made by the French Consul-General for Western Canada on the nomination of the President of the University. Candidates for the bursary must be advanced students in French. Applications should be submitted to the President not later than July 15th, 1930.

UNDERGRADUATE SCHOLARSHIPS

The following students from this University have been awarded the bursary:

1923, Arthur Robinson Morgan; 1924, Ada Augusta Anderson; 1925, Marcel E. Jean-Richard; 1926, Lillian Cobb; 1927, Florence Borden; 1928, not awarded; 1929, Myra G. Cipperley.

Mathematics

The Russell Roberts Caldwell Memorial Scholarship is offered annually by Dr. A. L. Caldwell, in memory of his brother, Russell Roberts Caldwell, killed in action during the Great War. The scholarship, of the value of $50.00, is open to students in the second year of the Faculty of Arts and Sciences who shall have obtained satisfactory standing in Mathematics 1 or its equivalent, not less than 75% in each of Mathematics 7 and Mathematics 22, and an average standing of not less than 65% on the whole year. The award will be made on the recommendation fo the Department of Mathematics. The University reserves the right to withhold the scholarship in any year should no candidates of sufficient merit present themselves. The scholarship is tenable during the third year, on condition that the recipient read for honours in Mathematics during that year.

The Federation of University Women in Canada Travelling Scholarship

The Travelling Scholarship of the Federation of University Women in Canada, of the value of $1,250, available for study or research work, is open to any woman holding a degree from a Canadian University. In general, preference will be given to those candidates who have completed at least one or two years of graduate study and have a definite research in preparation. The award is based on evidence of character and ability of the candidate and promise of success in the subject to which she is devoting herself.

Application is to be made by letter to the Convener of the Scholarship Committee, Dr. Geneva Misener, University of Alberta, Edmonton, Alberta, not later than February 1st.

The letter of application should contain an account of the applicant's educational training and a statement in full of the plan of study or research she intends to pursue. This information should be accompanied by:

1. A written statement from the President of the College or University awarding the degrees held by the applicant to the effect that her application as a suitable cnadidate is approved.

2. Testimonials as to her health, character, ability and scholarship. All testimonials and references should be in writing. The committee will assume no responsibility for making enquiry beyond the papers submitted.

3. Theses, papers or reports of investigation published or unpublished.

All papers submitted by the applicant will be returned if postage is sent for that purpose. Confidential letters will be kept.

The choice of the University at which the successful candidate shall pursue her study or research work is left to the Committee of selection in consultation with the candidate.

The scholarship is payable in two equal instalments on July 1st and January 1st by the Treasurer of the Federation, provided the successful applicant sends her address for those dates.

At the end of her tenure, the candidate shall send a report of her work, together with a statement of its worth from the professor or other authority conversant with her research to the Convener of the Scholarship Committee.

Daughters of the Empire Post-Graduate Overseas Scholarship

The scholarship, founded by the Imperial Order, Daughters of the Empire, as part of the War Memorial of the Order, is of the value of $1,400.00 tenable for one year in any British University, the subjects of study being specified as British and Imperial History, the economics and government of the Empire and Dominion, or any subject vital to the interest of the Empire.

Application is to be made to Mrs. J. C. Noell, 410 6th St. W., Calgary, Alberta, not later than October 5th.

The selection of a candidate will take place during the month of November. The candidate selected must be prepared to begin his or her course in Great Britain in the following autumn.

Candidates may be men or women. They must be British born, naturalized allies, or naturalized neutrals, with at least five years' residence in Canada, and unmarried. Except in the case of a returned soldier, sailor or airman, they must have passed their 19th but not their 27th birthday in October of the year during which they begin their course. In the case of a man who has served in the Great War, he must not have passed his 29th birthday in October of the year in which he begins his course. Each candidate must hold a degree from a recognized university or degree-granting college in the province in which he or she is making application, or be in his or her final year proceeding to a degree, and shall be entitled to apply in the province

in which the university from which he or she graduates is situated, irrespective of her or her place of residence in Canada. In provinces where there is no university, the War Memorial Committee in that province shall grant the scholarship to a man or woman from that province who has graduated from any Canadian university or college, or is in his or her final year proceeding to a degree. Candidates from a province having no university may apply only in that province, not in the province where they are attending college or have taken a degree.

In choosing the scholars, the Committee of Selection will give consideration not only to literary and academic attainments, but also to personal character and physical fitness. If possible, personal interviews with the candidates will be arranged. Other conditions being equal, preference will be given to a returned soldier, his sister, son or daughter.

The following students have obtained this Scholarship:

1922, Bertha Lawrence; 1924, John Wesley McClung; 1926, James Brown; 1927, Marjorie Sherlock; 1928, Marian M. Gimby; 1929, Matthew Henry Halton; 1930, Margaret M. Roseborough.

The 1851 Exhibition Science Research Scholarship

Three of these Scholarships are granted each year in Canada and may be applied for by students of eight Canadian universities of which this institution is one. They are of the value of £250 per annum for two, or in rare instances, three years, together with certain possible allowances for fees and travelling expenses. The object of the Scholarship is "to enable students to continue the prosecution of science with a view to aiding in its advance or in its application to the industries of the country." Open to students of not less than three years' standing who have shown evidence of capacity for original research and tenable at any University or other institution approved by the Committee.

Students intending to apply for this scholarship should communicate with the Registrar before February 15th.

In 1923 this scholarship was awarded to Julius Ferdinand Lehmann; in 1925 to Charles Leonard Huskins; in 1929 to Donald Orr Sproule.

The Prittie Scholarships

Two scholarships of the value of $400 each are offered by Mr. R. D. Prittie, one to a student trained in biological science and one to a student trained in chemistry, for research in the problem of the disintegration of creosoted woods by the action of fungi. Applica-

tions for these scholarships should be made to the Registrar on or before February 15th.

The Rhodes Scholarship

The Trustees of the late Cecil Rhodes have assigned a Rhodes Scholarship to the Province of Alberta.

A candidate for this scholarship must (1) be a British subject with at least five years' domicile in Canada and unmarried. He must have passed his nineteenth, but not his twenty-fifth birthday, on October 1st of the year *for* which he is elected; (2) be at least in his sophomore year at a recognized degree-granting University or College of Canada, and (if elected) complete the work of that year before going into residence at Oxford.

A candidate may compete either in the Province in which he has received at least two years of his college education, or in the Province in which he has his ordinary private domicile.

In each Province there is a Committee of Selection, in whose hands the nominations rest subject to ratification by the Trustees. The secretary of the Committee of Selection for Alberta is H. A. Dyde, Esq., 301 McLeod Building, Edmonton.

The Committees of Selection are instructed to bear in mind the suggestions of Cecil Rhodes, who wished that, in the choice of his scholars, regard should be had for:

(1) literary and scholastic ability and attainments;
(2) qualities of manhood, truth, courage, devotion to duty, sympathy, kindliness, unselfishness and fellowship;
(3) exhibition of moral force of character and of instincts to lead and to take an interest in his schoolmates;
(4) physical vigour, as shown by interest in outdoor sports or in other ways.

The Committees are also instructed to regard distinction in character, personality and intellect as the most important requirements for a Rhodes Scholarship. They are also warned that success in being elected to office in student organziations may or may not be evidence of leadership in the true sense of the word. Rhodes evidently regarded leadership as consisting in moral courage and in interest in one's fellow men quite as much as in the more aggressive qualities. Physical vigour is an essential qualification for a Rhodes Scholarship, but athletic skill is of less importance than the moral qualities developed in playing outdoor games. Poverty does not give a special claim to a Scholarship. The strongest candidate will be appointed regardless of his financial circumstances. In general

preference will be given to a candidate who will be under the age of twenty-three when he goes into residenc at Oxford. In the absence of a strong candidate a Committee will make no appointment.

Every candidate is required to furnish to the Committee of Selection for his Province the following:

(a) a certificate of age;
(b) a photograph, preferably unmounted, and not larger than 4x7 inches;
(c) a written statement from the President or Acting President of his College or University to the effect that his application as a suitable candidate is approved;
(d) certified evidence of the courses of study pursued by the scholar at his University, and of his grading in these courses, which evidence should be signed by the Registrar or other responsible official of his University;
(e) a brief statement by himself of his athletic and general activities and interests at College, and of his proposed line of study at Oxford;
(f) references to six persons, of whom at least two have directed his studies, well acquainted with him, and their addresses in full;
(g) a medical certificate.

As a general rule a Committee of Selection is required to summon a candidate to appear before it.

The next appointment will be made for 1931. Applications for the Scholarship, with all required material, must reach the secretary of the Committee of Selection not later than November 15th, 1930.

Each Scholarship is of the value of £400 a year and is ordinarily tenable for three years at Oxford. Beginning with the 1930 appointments, at the end of two years, a Scholar may (a) vacate his Scholarship or (b) postpone the tenure of the third year of his Scholarship. The third year of the Scholarship may be spent at Oxford or at any other University, approved by the Trust, outside the Scholar's country of origin.

The Scholar enters residence in October of the year for which he is elected.

"Senior standing" at Oxford, exempting from all except the final examinations for the degree, is granted to a graduate of an approved Canadian University, provided at least three years of his work have been taken in residence. "Junior standing," exempting from Responsions (Oxford matriculation) but not from the Intermediate examination, is granted to a student who has resided two years in

an approved Canadian university and has successfully completed his required courses which must include two languages other than English, one of them being either Latin or Greek. A student granted either of the above standings may take the Final Honours Schools and B.A. degree in two years.

It must be realized that £400 will barely meet the expenses of a full year, including vacations. A Scholar will probably find it necessary to supplement his Scholarship slightly.

The Rhodes Scholars hitherto elected from this University are as follows:

1913, Walters Farrel Dyde; 1915, Henry Grattan Nolan; 1917, Henry Alexander Dyde; 1918, Alan Burnside Harvey; 1919, Daniel Roland Michener; 1920, Walker Dunham; 1921, George Victor Ferguson; 1922, Stuart Perry Hamilton; 1923, Robert Lincoln Lamb; 1924, John McIntyre Cassels; 1925, Edward Hunter Gowan; 1926, Clarence Sutherland Campbell; 1928, Roland Martland; 1929, George Francis Gillman Stanley; 1930, Hugh Whitney Morrison.

University Regulations

FEES

Make all cheques payable to "*University of Alberta.*"

The University reserves to itself the right to change these fees from year to year without notice.

I.—In Arts and Sciences:

(a) B.A., B.Sc. in Arts, B.Sc. in Pharmacy, B.Sc. in H.Ec., undergraduate and conditioned students:

Instruction per session	$ 85.00
"A" Language courses, each	15.00
Registration	2.00
Students' Union	13.00
Medical Service	5.00
*Caution Money	5.00
Library	5.00

(b) B.Com., undergraduate and conditioned students:

Instruction per session, first year	$ 85.00
"A" Language courses, each	15.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

Instruction per session, subsequent years	$100.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

(c) Special and Partial students:

Instruction per session per course	$ 25.00
Registration	3.00
Students' Union	7.50

Medical Service, *Caution Money, and Library fees, as in I. (a).

II.—In Applied Science:

(a) Undergraduates and conditioned students:

Instruction per session, first year	$ 85.00
"A" Language courses, each	15.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

Instruction per session, subsequent years	$125.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

(b) Special and Partial Students:

Instruction per session per course	30.00

Registration 5.00
Students' Union 7.50
Medical Service, *Caution Money, and Library fees, as in I. (a).

(c) In Arts and Applied Science:
Instruction per session, first, second and third years ..... $ 85.00
"A" Language courses, each 15.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
Instruction per session, subsequent years 125.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

III.—(a) In Law:
Instruction per session $110.00
"A" Language courses, each 15.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

(b) In Arts and Law:
Instruction per session, first, second and third years ..... $ 85.00
Instruction per session, subsequent years 110.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

IV.—In Medicine:

(a) M.D. undergraduates and conditioned students:
Instruction per session, first year $140.00
"A" Language courses, each 15.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
Instruction per session, subsequent years $190.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
($5.00 additional charge for each term if made in two payments.)

(b) Special and Partial students:
Instruction per session, per course, first year ..... $ 30.00
Instruction per session per course, subsequent years 40.00
Registration, Students' Union, Medical Service, *Caution Money and Library fees, as in II. (b).

(c) In Arts and Medicine:

Instruction per session, first, second and third years ..... $ 85.00
"A" Language courses, each 15.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
Instruction per session, subsequent years 190.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

V.—In Dentistry:

(a) D.D.S. undergraduates and conditioned students:

Instruction per session, first year $140.00
"A" Language courses, each 15.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
Instruction per session, second and third years $185.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
Instruction per session, fourth and fifth years $210.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
($5.00 additional charge for each term if made in two payments.)

(b) Special and Partial students:

Instruction per session per course 40.00
Registration, Students' Union, Medical Service, *Caution Money and Library fees, as in II. (b).

(c) In Arts and Dentistry:

Instruction per session, first, second and third years ..... $ 85.00
"A" Language courses, each 15.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
Instruction per session, fourth and fifth years 185.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).
Instruction per session, subsequent years 210.00
Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

VI.—In Nursing:

(a) Degree Course:

Instruction per session ..... $ 70.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

(b) Diploma Course:

Instruction Gratis.

Registration 2.00

Students' Union 10.00

VII.—In Pharmacy Licensing Course:

Instruction per session, first year $100.00

"A" Language courses, each 15.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

Instruction per session, second year $120.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

VIII.—In Agriculture:

(a) B.Sc. in Agric., B.H.Ec.:

Instruction per session ..... $ 60.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

(b) Diploma Course:

Registration 3.00

Students' Union 4.50

Library 2.50

Medical Service and *Caution Money fees, as in I. (a).

(c) In Arts and Agriculture:

Instruction per session, first, second, third and fourth years ..... $ 85.00

"A" Language courses, each 15.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

Instruction per session, subsequent years 60.00

Registration, Students' Union, Medical Service, *Caution Money, and Library fees, as in I. (a).

IX.—In Graduate Courses:

Annual Registration fee for M.A., M.Sc. or B.Educ. ..... $ 2.00

Annual Registration fee for B.D. 2.00

FEES

Master of Arts and Master of Science per course per year 20.00
Bachelor of Education, per course per year 20.00
Library 2.50

X.—In Correspondence Courses:
Instruction per course per session ..... $ 10.00
Double course in a language 15.00
(as arranged with Director.)

XI.—Summer Session:
Instruction per course per year 20.00
Registration 1.00
Students' Union 2.00
Library 1.00

XII.—For viséing Certificates 4.00

XIII.—For Transcript of Record 3.00

XIV.—For Supplemental Examinations:
Each subject 5.00

For Special Supplementals:
First subject 10.00
Each additional subject 5.00

XV.—For D.Sc. degree 85.00

XVI.—For ad eundem degrees 10.00

XVII.—For Final examinations for any Degree or Diploma, including parchment 10.00

For Degree or Diploma "in absentia" an additional fee of 15.00
Application for Degree or Diploma in absentia must be made to the Registrar at least three days before Convocation. The whole amount will be refunded if the student is unsuccessful.

XVIII.—For Summer Reading Courses in Languages 5.00

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*Every student is required to deposit $5.00 Caution Money to cover damages done to furniture, apparatus, books, etc. This amount, less any necessary deductions, will be returned at the end of the session. Breakages exceeding this amount must be paid for before the student is permitted to take any examinations.

ROOM AND BOARD

Room and Board per session $259.00
This includes the period October 1st to May 1st, or from an earlier day in September to the same day of the month in April. For days beyond this time, an extra charge will be made.

Board only, payable in advance, per month 25.00

Meal ticket (21 meals) 7.25

Summer Session: Room and Board in Residence, July 3rd to August 14th (inclusive) 52.00

REGISTRATION

There are certain forms to be filled out by applicants for enrolment in the University. A new student should, early in the summer, secure from the Registrar of the University, an application form which he should fill out and return as soon as possible. This application form must be accompanied by letters of character recommendations from two responsible parties, one of whom should be the principal of the high school last attended. Moreover, the student should himself write to the Registrar of the Department of Education, of the province in which he obtained his preliminary education, asking him to send directly to the Registrar of the University a transcript of the complete High School record of the applicant. This should be done to avoid delays embarrassing both to the student and to the University.

Students in attendance at the University who are planning to return for the ensuing year should secure from the Registrar's Office a copy of the calendar and a registration form for tentative registration, this latter to be mailed to the Registrar's Office before Sept. 1st.

All students registering in the first year and new students entering the second year must complete their registration in conference with advisers at the University on September 22nd, 23rd and 24th.

All other students must complete their registration in person at the University on September 25th. First year lectures begin on September 25th; other lectures on September 26th. Students having exceptional difficulty in this connection may communicate with the Registrar.

Students are required to register for courses in which they are deficient before registering for other courses. The Faculty Councils reserve the right to adjust courses to meet the requirements of time-

tables of lectures and examinations. The programme of work for which a student seeks registration is in every case subject to the approval of the Registrar and the Faculty concerned.

N.B.—A student is responsible for the completeness and accuracy of his registration. He is also responsible for any adjustment of registration made necessary by the results of supplemental examinations. Particular care should be exercised with regard to prerequisite courses.

ATTENDANCE AND LATENESS

(a) Strict attendance rules calling for close attendance upon lectures from the beginning of the session are enforced. Late entrance is inadvisable, because a bad start in the courses seriously affects the student's work and may even result in the loss of the whole year.

(b) Students are required to register, in person, by the dates specified in the Academic Calendar (page 3).

(c) Registration after the end of the registration period will be permitted only upon the following conditions:

(1) Illness, accident, family affliction, employment under contract, or other exceptional circumstances, provided that any application for late admission shall be accompanied by a confirmatory certificate, and

(2) The payment of a special registration fee of $3.00.

(d) Students, other than the members of the graduating class, are excluded from the final examination in any course if the absences exceed ten periods in courses of three periods a week throughout the session, six periods in courses of two periods a week, or four periods in courses of one period a week. The exception made above in the case of the members of the graduating class applies to lecture periods but not to laboratory periods.

(e) Absences are counted from the first day of the session.

(f) Excuses for absence may be presented in cases of (1) illness or physical disability, (2) domestic affliction, and (3) in certain other cases.

(1) Students desiring to present excuses for absence on the ground of sickness or disability must, within one week of the date when that absence occurred or when the period of absence terminated, obtain absence cards at the office of the Registrar. These cards must be returned to the office of the

Registrar, with Physician's signature, within one week of the date stamped on the card. The Registrar will promptly forward to the Director of Medical Services the names of such students and the dates for which they claim exemption, and upon the endorsation of the Director of Medical Services, such excuses will be filed to constitute part of the year's attendance record. Absence cards are required for *each* absence, even in the case of students suffering from chronic or recurrent disabilities. No other form of excuse in regard to sickness or physical disability will be accepted.

(2) Excuses for absence on the ground of domestic affliction must be presented to the Registrar direct and also within one week as specified in (1).

(3) Students are required to present absence cards in every case where credit for absences is to be obtained, such as transfer of attendance record from one course to another, lectures missed because of conflicts with examinations, etc. Any excuse, other than those already mentioned, which a student cares to present must be made in person to the Registrar and the judgment of that officer upon its validity shall be final, subject to an appeal to the General Faculty Council. Moreover all such absence cards must be presented within the same time limit as in (1).

(g) Students who are *late* for any lecture or university exercise will be marked absent upon the records of the instructor in charge, unless at the end of the period in question they account satisfactorily to the instructor for their lateness (in which case he will, without destroying the mark of absence, indicate his acceptance of the excuse by making an X over the a). The decision of the instructor shall be final, subject only to an appeal to the Committee on Examinations.

(h) Students desiring *leave of absence* in any given course must communicate their desire to the Registrar. When such leave of absence has been granted, the student is exempted from the operation of the attendance rule above.

SESSIONAL EXAMINATIONS

(a) *First year courses*: In first year courses a definite mark for each student will be reported to the Registrar's Office before the tenth of November. This mark may be based upon a test or tests or essays. Other tests may be held or essays assigned at the discretion of the department concerned. One-hour tests are held in December.

(b) *Second year courses*: In second year courses in the Faculties of Arts and Sciences, Applied Science, Agriculture and the School of Pharmacy one-hour tests are held in December. Other tests may be held or essays assigned at the discretion of the departments concerned.

(c) *Senior courses*: In senior courses tests may be held or essays assigned as the departments concerned may decide for the purpose of determining credits to be allowed for term work.

(d) *Distribution of credits*: In each course credit of not less than 30% and not more than 50% will be assigned to term work. The remaining credit in each course will be assigned to the final examination.

(e) *Final examinations*: In each course a final examination is held. In courses completed before Christmas final examinations may be held either during the week immediately preceding the Christmas vacation, or at the time of the spring examinations as the departments concerned may determine. In all other courses final examinations are held at the end of the session.

(f) *Absence from tests*: When a student is absent from a test the mark for that test is zero. However, in case of illness a student may be excused from writing a test examination. In applying for exemption a student must present an absence card signed by the Director of Medical Services as provided for on page 57. When such exemption is granted the principle will be followed of carrying over the possible credit for a term test missed on account of illness and adding such credit to the possible credit for the final examination.

(g) *Aegrotat standing*: Aegrotat standing may be granted by the faculty council concerned to a student registered in either of the last two years in any course, unless it be in the final year for the first degree in a combined course. Such standing may be granted in the final examination on the ground of illness to a student whose scholastic standing and term record are satisfactory. Any other student absent from a final examination because of illness may apply for permission to write the regular supplemental examination. The pass mark for the supplemental examination will be the usual pass mark for the final examination in the course concerned and term marks will be taken into account.

(h) *Intercollegiate games or conferences*: When intercollegiate games or conferences, or other events involving absence of students from the University, fall within any period of tests, members and officers of teams and official delegates to such conferences shall notify the Registrar in writing at least two weeks before the

beginning of the test period, in order that a re-adjustment of the time-table may be considered.

(i) *Publication of standing*: In the publication of standing in the various courses, students are grouped by classes, the first class comprising those who have obtained 85% and over, the second class those who have obtained marks from 65% to 84%, and the third class those who have obtained marks from 50% to 64%. In general, 50% is the minimum for a pass. In the case of "A" and "A-1" language courses, the pass mark is 65%. In the third and fourth years in the Faculty of Arts and Sciences four of the required eight senior courses must be passed with not less than 65%; in the third year of each Combined Course the same regulations apply except in Arts and Applied Science; in the third year of Arts and Applied Science and in the fourth years of all the Combined Courses the usual 50% rule applies. In the B.Com. and B.Sc. in H.Ec. courses each of the following combinations is counted as a course in the application of these regulations: Accy. 55 and Pol Ec. 73, Hygiene 51 and H.Ec. 57, and H.Ec. 56, 58 and 59. Students in the three years of the Faculty of Law are required to obtain an average of 60% in the work of each year.

(j) *Appeals*: Final examination papers may be re-read on an appeal being made to the Registrar within sixty days after the publication of the results, accompanied by a fee of $5 for each paper; the fee will be returned if the appeal is sustained and the student passed in the course.

(k) *Final Examination Fee*: Each student in the graduating year must deposit a fee of $10.00 for his final examination. If he fails to graduate this fee will be refunded. If he is successful but is unable to attend Convocation an extra fee of $15.00 is assessed in order to have the degree conferred "in absentia". Application to obtain the degree "in absentia" accompanied by the fee must be received at the Office of the Registrar at least three days before Convocation, otherwise the degree will not be conferred. Students are expected to attend Convocation if at all possible.

SUPPLEMENTAL EXAMINATIONS

(a) Supplemental examinations are conducted by the University in September of each year. A student who has failed in any course in the preceding session and whose attendance record is satisfactory, may apply for permission to take a supplemental examination. *In

*In the Faculties of Law and Medicine the average on the year's work must be at least 60%.

the Faculties of Arts and Sciences (including the Schools of Household Economics, Commerce and Education), and Agriculture a student is required to make an average standing in his year's work of at least 50% and a standing of at least 30% in any particular course before he may apply for a supplemental examination in that course. Any student neglecting to take, or failing to pass, a supplemental examination is required to repeat the course, or take an equivalent course.

(b) *Pass mark*: The pass mark required for supplemental examinations in all courses is 65%. This pass mark also applies to any course repeated without attendance. In laboratory courses the term marks obtained for laboratory work may be taken into account at the discretion of the department concerned.

(c) *Illness*: A student who has missed a final examination *because of illness* may apply for a supplemental examination at the regular time. When a supplemental examination is granted on account of illness the pass mark will be the usual pass mark for the course and term work will be taken into account. A *student in the Faculty of Medicine* who cannot take a Christmas final examination because of illness will be granted a supplemental examination in the spring.

(d) *Graduating students*: A member of the graduating class, who, having exhausted all the regular supplemental examination privileges, has still a failure in one course only, may, with the permission of the faculty council concerned, register in and repeat that course without attendance, unless in the opinion of the department concerned, a second attendance is necessary. No course, under any circumstances, may be taken without attendance except with the permission of the faculty council concerned. A member of the graduating class failing an examination in a course completed at Christmas previous to graduation will be allowed a supplemental examination in the spring.

(e) *Special supplemental examinations*: Special supplemental examinations are held at one time only during the session, i.e., during the Christmas vacation. Applications for such examinations must be in the hands of the Registrar not later than October 10th. These examinations are granted only after careful consideration of the reasons for inability to write at the regular time for supplemental examinations. A student employed under contract must furnish a statement from the employer certifying the date on which the contract expires.

(f) *Fees*: A fee of $5.00 is charged for each supplemental examination. For special supplemental examinations a fee of $10.00 is

charged for the first course and $5.00 for each additional course taken at the same time.

PROFESSIONAL EXAMINATIONS

Either by statutory provision or by agreement the examinations for the right to secure registration with the following professional societies in the Province of Alberta are under the control of the University:

The Alberta Association of Architects.
The Alberta Land Surveyors' Association.
The Alberta Dental Association.
The College of Physicians and Surgeons of Alberta.
The Law Society of Alberta.
The Alberta Pharmaceutical Association.
The Institute of Chartered Accountants of Alberta.
The Association of Registered Nurses of Alberta.
The Association of Professional Engineers of Alberta.
The Veterinary Association of Alberta.
The Alberta Optometric Association.

Information with respect to these examinations may be obtained on application to the Registrar.

WITHDRAWAL OF STUDENTS

The General Faculty Council may refuse permission to a student to enter any year of any course, if, in the opinion of the Council, such student shows a lack of general educational attainment. Further, a student whose record in the class room, in tests, or in final examinations is unsatisfactory, may at any time be required to withdraw from the University.

DISCIPLINE

The Provost is the chief disciplinary officer of the University. He exercises general supervision over the conduct and welfare of the students, especially with regard to the students in residence.

In the case of dishonesty or any serious indiscipline in the class room, the instructor has the authority of suspension from the class room. Further action is to be taken by a committee consisting of the Provest, the Department concerned, and the Dean of the Faculty concerned.

By a resolution of the Senate, a Committee on Student Affairs has been constituted as follows: "The President of the University, the Chancellor, the Chairman of the Board of Governors, the Provost, the Chairman of the Freshman Committee, one member to be elected from each Faculty; two members to be elected from the Senate

(these not to be Faculty representatives); the Adviser to women students; the president of the Students' Union; the Chairman of the Men's House Committee; the president of the Athletic Society; the president of the Literary Department of the Students' Union; the president of the Wauneita Society; the editor-in-chief of "The Gateway"; three members to be elected from the Students' Council."

Under the same resolution, the duties of this committee are:

(1) "to deal with

(a) all matters referred to in the University Act, Article 41, subsections 18 and 19;

(b) all other matters relating to students' interests not therein referred to provided that in event of any decision of this committee being challenged by a non-student member, the decision must, to be valid, be ratified by a majority of the non-student members present; provided further that the right of appeal to the Senate against any such decision shall lie with the student members."

(2) For misconduct in the lecture-room, a student may be required by the instructor to leave the lecture-room. Persistent misconduct shall be reported to the President of the University, who may suspend from lectures pending the action of the Committee on Student Affairs.

(3) In all cases of discipline involving offences against the student body, a student may appeal from decisions of that body or of any court constituted by it to the Committee on Student Affairs.

(4) No student shall be permitted to continue in attendance at the University whose presence is for any cause deemed by the Committee on Student Affairs prejudicial to the interests of the University

(5) All regulations affecting the Students' Union are subject to the approval of the Committee on Student Affairs."

SCHOLASTIC STANDING

The following disciplinary ruling with regard to Athletics, submitted by the Faculty of Arts and Sciences and the Students' Union, was adopted by the Senate at its meeting of March 31st, 1911:

"Hereafter no persons except *bona fide students* who are in attendance at the University, or at one of the group of organized affiliated colleges carrying full work and whose scholastic record is certified as satisfactory by the Faculty Council of the University or by the respective colleges in which they are

registered, shall be permitted to play on or be officers of any athletic team representing the University of Alberta."

Satisfactory scholastic standing shall be understood, in general, to mean passing on three-fifths of a full year's course of lectures of university grade.

The Faculty Council has entrusted to the Committee on Scholastic Standing the administration of these regulations which have been enlarged to include the following activities:

1. Athletics: All competitions with outside organizations whether conducted within or outside of the University.
2. Dramatic Performances: The annual play of the Dramatic Society.
3. Debates: All debates with outside organizations, whether conducted within or outside of the University.
4. Such other activities of general interest as may be submitted to the Faculty for its approval from time to time.

By *bona fide students* shall be understood:

(a) Students who are doing full undergraduate work in the University.

(b) Graduate students in attendance following any full course of studies leading to a degree.

(c) Students in affiliated colleges carrying a full year's work leading to a diploma or certificate and taking two full courses of university grade in the University.

RESIDENCES

Residential accommodation is provided in the University Residences for four hundred students. All students not living with parents or guardians must reside in the University residences or in places approved by the University authorities.

Applications for reservations, accompanied by twelve dollars ($12.00), must be in the hands of the Bursar by September 6th. Reservations will not be held after September 25th. Final assignment of rooms will be approved by the Provost.

Each student to whom a room is assigned will be required to deposit one dollar ($1.00) for keys and will receive a red ticket showing name, number of room, and date of entry. Upon presentation of this ticket to the House Superintendent, keys will be issued. Students vacating rooms during, or at the end of the term, must return this red ticket to the cashier, signed by the House Superintendent, showing date of leaving, in order to obtain any rebate or deposit on keys.

Students must notify the Bursar before vacating rooms, otherwise no rebate will be considered. No exchange of rooms will be allowed unless arrangements are made with the Bursar and approved by the Provost.

Room and Board per session, $259.00. Arrangements for monthly payments may be made with the Bursar. Students leaving during Christmas holidays will be allowed rebate at the rate of eighty cents per day for board only, from December 21st to January 4th (inclusive).

The conduct of students in residence is subject to the authority of the House Committee, under the Board of Governors. This committee consists of the Provost, the Adviser to Women Students and two resident students from each of the University Halls. Special subcommittees of the House Committee will deal with matters relating solely to the men students and to the women students respectively. The resident members shall be fourth year or graduate students and shall be elected not later than two weeks after the beginning of the session. Any vacancy thereafter occurring shall be filled at a special election to be held within two weeks after the occurrence of the said vacancy. Only students who have been in residence at least one year shall have the right to vote at elections of members of the House Committee.

MEDICAL SERVICES

All students registered in the University are required by the Students' Union to pay an annual fee of five dollars ($5.00), which is applied to the maintenance of a Medical Service Fund. This trust fund is administered by a committee consisting of the President of the University, the Provost, the Medical Director, the Bursar, the President of the Students' Union, and the Chairman of the Men's House Committee. In return for the fee paid, students are entitled to medical treatment under such conditions and provisions as have been outlined in specially printed pamphlets, copies of which will be furnished to students at the time of registration. Every student should read these instructions carefully.

STUDENT FUNCTIONS

All student functions are conducted under the general supervision of the Provost, and except by special permission are held in the University buildings. A written communication for permission to use a University building for such purpose must be addressed to the Provost at least ten days before the date set for any function.

MEETINGS OF STUDENT SOCIETIES

Applications for the use of rooms for students' meetings must be made to the Registrar's Office.

ACADEMIC COSTUME

All gowns are to be of the customary Cambridge shape: i.e., for undergraduates a black stuff gown not falling below the knee with round sleeve cut above elbow; for bachelors, a black stuff gown falling below the knee with full sleeve cut to elbow and erminating in a point; for masters, a black stuff or silk gown falling below the knee with long sleeves with semi-circular cut at bottom.

Hoods are to be of the Oxford pattern, except those for the doctorate, which shall be of the Cambridge form.

Bachelors' and Masters' hoods are to be of a spruce green silk, with, for bachelors, a border (1½ inches wide); for masters, a full lining of the color distinctive of the faculty.

FACULTY COLOURS

The faculty colours are:

For Arts (including LL.D.)	Green and White
For Science	Light Green.
For Law	Cream.
For Agriculture	Pale Blue.
For Education	Lilac.
For Medicine	Rose.
For Dentistry	Buff.
For Pharmacy	Cinnamon.
For Divinity	Purple.
For Household Economics	Pink.
For Commerce	Silver Gray.
For Nursing (B.Sc.)	Crimson.

Doctors' hoods are to be of scarlet silk, with a full lining of the respective faculty colour, the M.D. and D.D.S. hoods to be of the master's pattern.

Doctors are entitled to wear a full dress scarlet robe faced with silk of the respective faculty colour.

All caps are to be of the ordinary black trencher shape with black tassels, with a black velvet cap with gold cord for doctor's full dress.

DEGREES IN ABSENTIA

Graduands who are unable to present at Convocation should make application to the Register at least three days before the date of Convocation, for the degree or diploma to be conferred in absentia. A special fee of fifteen dollars ($15.00) is charged for this privilege.

Organization of Faculties

The University reserves the right to modify or withdraw for the session any of the courses here outlined.

FACULTY OF ARTS AND SCIENCES

The courses leading to the degrees of B.A., B.Sc. in Arts, B.Sc. in Household Economics, B.Sc. in Pharmacy and B.Com are divided into two groups—junior courses and senior courses. A course is to be regarded as designating normally three hours lectures or three hours lectures and three hours laboratory work in a subject each week throughout the session. The junior courses are designed for students in the first and second years, the senior courses for students in the third and fourth years. The junior courses are, in general, to be regarded as preparatory to the senior courses.

Certain courses of instruction, both junior and senior, are offered in co-operation with the Summer School for teachers which is held annually in the months of July and August at the University of Alberta. Detailed information concerning these may be obtained from the Registrar. (See also p. 85.)

Students registered in the course leading to the degree of B.A. or B.Sc. in Arts, general course, must continue two senior subjects throughout the third and fourth years.

Although the normal minimum passing mark for courses given in this University is 50%, a special regulation of the Faculty of Arts and Sciences requires that four of the necessary eight senior courses shall be passed with Second Class Standing, or a mark of at least 65%. This requirement applies to students in the courses leading to the degrees of Bachelor of Arts, Bachelor of Science in Arts, Bachelor of Commerce, and of Bachelor of Science in Household Economics. With respect to the degree of Bachelor of Science ni Pharmacy, four second-class standings obtained in any of the senior courses are required.

N.B.—1. Students in the Faculty of Arts and Sciences are required to clear matriculation conditions and deficiencies before returning to the university for a second session.

2. Beginning with the registration of the 1930-31 session students in the Faculty of Arts and Sciences will be permitted to register with one matriculation condition only.

Note the following regulations in relation to the raising of third classes to seconds:

1. Subsequent to the supplemental examinations following the degree examinations, a student may write, without attendance, two examinations provided one of these only is below 50%.

2. A student shall be permitted to make good at the autumn supplemental examinations any deficiency in the number of second classes required in the third year.

Students in theology may be exempted from two senior courses selected from Division A or B by presenting certificates of having satisfactorily completed an equivalent amount of work in one of the organized affiliated theological colleges.

Students in St. Joseph's College may be exempted from one senior course selected from Division A or B on presentation of a certificate from the College showing they have satisfactorily completed the course in Religious Knowledge as given in St. Joseph's College and recognized by the University Senate.*

A narrower choice of options in the first year separates the course leading to the degree of B.Sc. in Arts from that leading to the B.A., but thereafter, subject to a classification of studies into three general groups, courses are, with certain restrictions, largely elective.

Divisions of Courses of Instruction Leading to the Degrees of B.A. and B.Sc. in Arts

A. Languages and Literatures.
B. Philosophy, History and Political Economy.
C. Mathematics and Natural Sciences.

In accordance with this scheme the Junior, Senior, Honours and Graduate courses leading to the degrees of B.A., B.Sc. in Arts, M.A., M.Sc. and B.Educ. are classified as follows:

*See under St. Joseph's College, page 232.

DIVISION A Lang. and Lit.	DIVISION B Philos., Hist. and Pol. Econ.	DIVISION C Math. and Natural Sciences
***Junior Courses—First Year:**		
English: 1. French: A, 1. Greek: A-1. German: A-1, 2. Latin: A, 1—3.	Hist.: 1.	Math.: 1. Physics: 1. Chem.: 1. Zool.: 1.
***Junior Courses—Second Year:**		
English: 2. French: 2. German: 2, 47. Greek: 2—4. Hebrew. Latin: 2—4.	Hist.: 2, 3. Phil.: 2. Pol. Econ.: 1.	Bot.: 1. Chem.: 1, 41, 42. Geology: 1. Math.: 7, 22, 42. Physics: 1, 42, 46, 48. Zoology: 1.
†Senior Courses:		
Classics in English: 51. §Comparative Literature: 51. English: 52, 53, 57, 59, 60, 62, 63, 64. French: 51, 55, 56, 57, 58, 59. German: 47, 54, 55, 56. Greek: 51, 52, 53. Latin: 51, 52, 53, 54, 55, 56, 57. Old and New Testament Literature: 51.	**Ancient Hist.: 51, 52. Architecture: 62. Education: 54. Hist.: 53, 54, 56, 57, 58, 60. Phil.: 51, 52, 53, 54, 55, 56. Psychol.: 51, 52, 55. Pol. Ec.: 61, 63, 64, 65, 66, 67, 68.	Biochemistry: 51, 52, 61. Botany: 52, 53, 54. Chem.: 41, 42, 54 58. Entomology: 61, 62, 63. Geol.: 52, 53, 54, 55, 58. Math.: 42, 53, 55, 56, 57, 58, 61, 63, 64. Physics: 42, 46, 48, 51, 53, 54, 57. Physiol.: 60, 61. H. Econ.: 51, 52. Zoology: 51, 52.
Honours and Graduate Courses:		
English: 104, 109, 110. French: 101, 102. German: 101, 102, 103, 104. Greek: 101, 102, 103, 111, 113. Latin: 102, 103, 104, 105, 106, 111, 113, 114.	Education: 101. Hist.: 101, 102. Phil.: 101, 102, 103, 107, 108. Pol. Ec.: 101, 102, 103, 120-130. Psychol.: 101, 102, 103, 104, 105, 106.	Bot.: 101, 102, 103. Chem.: 101, 102, 103, 104. Geol.: 101, 102, 103. Math.: 101, 102, 103, 104, 105. Physics: 101, 103.

*Students are warned that they must meet the requirements in Phys. Educ.

§See under Department of Modern Languages.

**See under Department of Classics.

†See Departmental announcements as to which of the above courses will be given in the academic year 1930-31.

UNIVERSITY OF ALBERTA

DEGREE OF B.A.—GENERAL COURSE

FIRST YEAR

SUBJECTS		Course No.	Hours Lect.	Hours Lab.	Pge.
	English	English 1	3	...	171
	Mathematics	Mathematics 1	3	...	187
One of	French	French 1	3	...	196
	German	German A-1, 2	3	...	199
	Greek	Greek A-1, 2	3	...	160
	Latin	Latin 1-3	3	...	158
Three of	History	History 1	3	...	180
	Languages not already chosen	French 1	3	...	196
		German, A-1, 2	3	...	199
		Greek A-1, 2	3	...	160
		Latin 1-3	3	...	158
	Chemistry	Chemistry 1	3	3	149
	Physics	Physics 1	3	2	212
	Zoology	Zoology 1	3	3	224
	Phys. Educ.	Physical Education	2	...	230

Note: Students not choosing a laboratory science in the first year are required to take one in the second year.

With a view to enabling students to overtake entrance deficiencies in the languages, the opportunity is offered to students who have obtained at least 75% in an "A" language course to pursue during the following summer, under the direction of the Department concerned, the respective sequent course in French 1, German 2 or Latin 1, provided that it is the intention to continue the language in question through the second year. Similarly, students taking a first year course in a language, who obtain 85%, may with the consent of the department concerned, read the authors of the second year course during the summer and write these off at the time of the supplemental examinations in September, at which time second class standing must be obtained. No credit will be granted for the course unless and until a senior course in the language concerned is successfully completed in the following year. Information respecting details may be obtained from the Registrar.

Note: in the second, third and fourth years not more than two courses in a given academic year may be selected from any one department.

B.A.—GENERAL COURSE

Second Year:

1. One course from Division A.
2. One course from Division B.
3. One course from Division C.
4. 5. Two options.

Students entering with Grade XII standing must take physical education and must select a laboratory science in their second year.

Third Year:

1. 2. Two courses from Division A.
3. One course from Division B.
4. One option.

or

1. 2. Two courses from Division B.
3. One course from Division A.
4. One option.

Fourth Year:

1. 2. Two courses from Division A.
3. One course from Division B.
4. One option.

or

1. 2. Two courses from Division B.
3. One course from Division A.
4. One option.

UNIVERSITY OF ALBERTA

DEGREE OF B.Sc. IN ARTS—GENERAL COURSE

FIRST YEAR

SUBJECTS		Course No.	Hours Lect.	Hours Lab.	Pge.
	English	English 1	3	...	171
	Mathematics	Mathematics 1	3	...	187
One of	French	French 1	3	...	196
	German	German A-1, 2	3	...	199
	Greek	Greek A-1, 2	3	...	160
	Latin	Latin 1-3	3	...	158
	Chemistry	Chemistry 1	3	3	149
	Physics	Physics 1	3	2	212
One of	History	History 1	3	...	180
	Language not already chosen	French 1	3	...	196
		German A-1, 2	3	...	199
		Greek A-1, 2	3	...	160
		Latin 1-3	3	...	158
	Zoology	Zoology 1	3	3	224
	Phys. Educ.	Physical Education	2	...	230

Note: Students are recommended to carry on in the second year the language taken in the first year.

Note: In the second, third and fourth years not more than two courses in a given academic year may be selected from any one department.

Second Year:

1. One course from Division A.
2. One course from Division B.
3. 4. 5. Three courses from Division C.

Note: Students entering with Grade XII standing must take physical education in their second year.

Third Year:

1. 2. Two courses from Division C.
3. One course from Division A or Division B.
4. *One option.

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*This optional course to be related to one of the courses from Division C and to be officially approved.

Fourth Year:

1. 2. Two courses from Division C.
3. One course from Division A or Division B.
4. *One option.

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*This optional course to be related to one of the courses from Division C and to be officially approved.

HONOUR REQUIREMENTS

COMBINED COURSES

Courses of study have been arranged, associating the courses for the bachelor's degree, as indicated above, with those leading to degrees in the other Faculties. Details of these Combined Courses will be found in the statements of the associated Faculties; for B.A., B.Sc., on p. 108; for B.A., M.D. and B.A., D.D.S., on p. 115; for B.Sc., M.D., and B.Sc., D.D.S., on p. 126; for B.A., LL.B., on p. 122; and for B.A., B.Sc. (in Agric.), on p. 126.

DEGREES WITH HONOURS IN THE FACULTY OF ARTS AND SCIENCES

1. The courses in honours differ from the general courses in that they are planned with a view to specialization.
2. Admission to read for honours—granted in two classes, first and second class—involves on the part of the student the possession of first year standing in the Faculty of Arts and Sciences, senior matriculation, or equivalent standing. The honour courses cover a subsequent period of four years, of which the first is devoted to fulfilling pre-requisites, the remaining three principally to the subjects chosen for specialization.
3. Students desirous of reading for honours must consult the head of the Department concerned as early in their university career as possible; they are responsible for registering in their second year according to the lists of pre-requisites set out in the following pages.
4. Formal application to read for honours should be addressed to the Registrar before the end of the second year.
5. Permission to read for honours is granted by the Faculty Council on the recommendation of the Committee on Honours.
6. Students who fail to obtain honour standing at the end of their third or fourth years are transferred to the general course and become responsible for fulfilling the requirements of that course in so far as these differ from those of their honour course. Students who fail to qualify for honours at the end of their final year may be recommended by the Committee on Honours to the Faculty of Arts and Sciences for a degree in the general course.
7. Students in the second year, intending to read for honours in the three following years are required to take courses in at least two divisions, but in the third and fourth years may confine their work to one division, but not to one department. Restriction of work to one department in the fifth year shall in all cases be subject to the special approval of the Committee on Honours.

8. A degree with honours shall be granted only if the course is completed within four years after the commencement of the first year of specific honour work, unless further grace be granted for special reasons by the Faculty Council upon the recommendation of the Committee on Honours.
9. Students reading for honours in one of the scientific departments are permitted at the time of their registration to choose either the B.A. or the B.Sc. degree, to be granted on the successful completion of their courses. The attention of such students is directed, however, to regulation 1 under Graduate Degrees. See page 129.
10. The selection of options in honour courses is subject to the approval of the Committee on Honours.

HONOUR COURSES—DEPARTMENTAL REQUIREMENTS

Department of Botany

Second Year:

1. Botany 1.
2. 3. Two options from Division C (two of Physics, Chemistry, Zoology).
4. One option from Division A.
5. One option from Division B.

Third Year:

1. Botany 53.
2. Botany 101.
3. One option (Chemistry recommended).
4. One option (Geology recommended).

Fourth Year:

1. Botany 54.
2. Botany 102.
3. One of Geology, Biochemistry, Physiology.
4. One option (Chemistry recommended).

Fifth Year:

1. Botany 52.
2. Botany 103.
3. One of Geology, Biochemistry, Physiology.
4. One option (Chemistry recommended).

Department of Chemistry

First Year:

1. English 1.
2. Mathematics 1.

3. French 1, or German 1.
4. Chemistry 1.
5. Physics 1.
6. One option (second modern language recommended).

Second Year:

1. Chemistry 41.
2. Physics 46.
3. Mathematics 7.
4. One from Divisions A and B.
5. One option.

Third Year:

1. Chemistry 42.
2. Chemistry 58 or 54.
3. Mathematics 55.
4. One option.

Fourth Year:

1. Chemistry 54 or 58.
2. Two of: Chemistry 101, 102, 103.
3. One option.

Fifth Year:

1. Chemistry 101 or 102 or 103 or 104.
2. Biochemistry 61.
3. Two options.

Attendance at the Journal Club, which meets once a week, is required in the fourth and fifth years.

Department of Classics

Second Year:

1. Greek A-1.
2. Latin 2—4.
3. Classics in English 51 or Ancient History 51.
4. English 2, or a modern language of the second year.
5. One option from Divisions A, B, and C, preferably a modern language if English 2 has been chosen as subject 4.

Third Year:

1. Greek 2—4.
2. One senior Latin course (with one hour weekly additional given to Roman private life).
3. Latin and Greek prose and sight translation (one course).

4. Ancient History 51, or Classics in English 51.
5. One option among senior courses of Divisions A, B and C.

Fourth Year:

1. One Senior Greek course (with one hour weekly additional given to Greek private life).
2. One course in Honour Greek.
3. One course in Honour Latin.
4. Either Ancient History 51 or Ancient History 52.

Fifth Year:

1. 2. Either Greek or Latin as a major, two courses.
3. Latin or Greek as a minor, one course.
4. One option.

Honours in Latin and German

Second Year:

1. German 2.
2. Latin 2—4.
3. Philosophy 2.
4. English 2, or French 2, or Greek 2.
5. Classics in English 51.

Third Year:

1. One Latin course.
2. One German course.
3. 4. Two options from Divisions A and B.

Note: Ancient History 52 should be taken in either the third or fourth year.

Fourth Year:

1. One Latin course.
2. One German course.
3. 4. Two options from Divisions A and B.

Fifth Year:

1. 2. Two Latin courses.
3. One German course.
4. One option from Divisions A and B.

(For Honours in German and Latin, see under Department of Modern Languages.)

Honours in Latin and French

Second Year:

1. Latin 2—4.
2. French 2.

3. English 2, or Greek 2—4, or German 2
4. Philosophy.
5. Classics in English 51.

Third Year:

1. One Latin course.
2. One French course.
3. 4. Two options from Divisions A and B.

Note: Ancient History 52 should be taken in either the third or four year.

Fourth Year:

1. One Latin course.
2. One French course.
3. 4. Two options from Divisions A and B.

Fifth Year:

1. 2. Two Latin courses.
3. One French course.
4. One option from Divisions A and B.

(For Honours in French and Latin, see under Department of Modern Languages.)

Honours in Greek and French (or German)

Second Year:

1. Greek 1.
2. French 2, or German 2.
3. Philosophy 2.
4. English 2, or Latin 2—4, or German 2, or French 2.
5. Classics in English 51.

Third Year:

1. Greek 2—4.
2. One senior French (or German) course.
3. 4. Two options from Divisions A and B.

Note: Ancient History 51 should be taken in either the third or the fourth year.

Fourth Year:

1. 2. Two senior Greek courses.
3. One approved French (or German) course.
4. One option from Divisions A and B.

Fifth Year:

As for Fourth Year.

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Department of English

Second Year:

1. Continuation of the language taken in first year.
2. Classics in English 51.
3. English 2.
4. A course in History.*
5. An option.*

Third Year:

1. Continuation of the language studied in first and second years.
2. Honour course in English (English 104).
3. Pass course in English (English 53).
4. One option from Division B.*

Fourth Year:

1. Honour course in English (English 110).
2. 3. Two pass courses in English (to be chosen from 52, 57, 59, 60, 63).
4. One option from Divisions A and B.

Fifth Year:

1. Honour course in English (English 109).
2. Pass course in English (to be chosen from 52, 57, 59, 60, 63).
3. One option from Divisions A and B.

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*To be selected after consultation with the Department of English.

Department of Geology

Second Year:

1. Chemistry 41.
2. Zoology 5.
3. Botany 1.
4. Mathematics 7.
5. One option from Divisions A and B.

Third Year:

1. 2. Geology 1, 52.
3. One option from Division C.
4. One option from Divisions A and B.

Fourth Year:

1. 2. Geology 53, 54.
3. Chemistry 54.
4. One option.

HONOUR REQUIREMENTS

Fifth Year:

1. 2. Geology 55, 58.
3. 4. Two options.

Students are advised to have a reading knowledge of both French and German.

Department of History

Second Year:

1. A course in English History.
2. Political Economy 1.
3. English 2.
4. 5. Two options.

Third Year:

1. A second course in English History.
2. A senior course in History.
3. Philosophy 51.
4. 5. Two senior options.

Fourth Year:

1. An honour course in History.
2. 3. Two senior courses in History.
4. One option.

Fifth Year:

1. A second honour course in History.
2. A senior course in History.
3. Political Economy 63.
4. One option.

Note: History 57 and 58 must be two of the above four senior courses in History. History 3 must be taken before History 57. Political Economy 63 may be taken in the fourth year.

Department of Mathematics

Second Year:

1. 2. Mathematics 7, 22.
3. Physics (junior course).
4. One option from Divisions A and B.
5. One option.

Third Year:

1. Mathematics 55.
2. Mathematics (another senior course).
3. Physics (senior course).

4. Physics (another senior course) or Political Economy (senior course) or Physical Chemistry or Philosophy.
5. Mathematics 101.

Fourth Year:

1. Mathematics (honour course).
2. Mathematics (senior course).
3. One option.
4. Mathematics (another senior course).

Fifth Year:

1. Mathematics (honour course).
2. Mathematics (senior course).
3. One option.

Department of Modern Languages

Second Year:

1. French 2.
2. German 2 or 47.
3. English 2, or (for students intending to specialize in French) Latin 2—4.
4. History 2.
5. Philosophy 2.

Third Year:

1. 2. Two approved senior French courses.
3. One approved senior German course.
4. Classics in English 51, or Comparative Literature 51.

or

1. 2. Two approved senior German courses.
3. One approved senior French course.
4. Classics in English 51, or Comparative Literature 51.

Fourth Year:

1. One approved senior French course.
2. One approved senior German course.
3. Philosophy 51.
4. One option.

or

1. One approved senior German course.
2. One approved senior French course.
3. Philosophy 51.
4. One option.

HONOUR REQUIREMENTS

Fifth Year:

1. One approved senior French course.
2. Rom. Phil. 101-102.
3. 4. Two options.

or

1. One approved senior German course.
2. 3. German Phil. 101 and 102 or 103 and 104.
4. 5. Two options.

Special prescribed summer readings will be allotted to all Honour students at the close of their third year in Honours. A thesis, the topic of which must be selected before the close of the fourth year, will be required of all students reading for Honours. This thesis must be in the hands of the head of the Department by March 31 of the graduating year.

Honours in French and Latin

Second Year:

1. French 2.
2. Latin 2—4.
3. History 2.
4. Philosophy 2.
5. English 2 or German 47.

Third Year:

1. 2. Two approved senior French courses.
3. One approved Latin course.
4. One option in a third subject from Divisions A and B.

Fourth Year:

1. One approved senior French course.
2. One approved senior Latin course.
3. Philosophy 51.
4. One option.

Fifth Year:

1. One approved senior French course.
2. One approved senior Latin course.
3. Education 54.
4. One option.

(For Honours in Latin and French, see under Dept. of Classics.)

Honours in German and Latin

Second Year:

1. German 47.
2. Latin 2—4.

3. History 2.
4. Philosophy 2.
5. English 2 or French 2.

Third Year:

1. 2. Two approved senior German courses.
3. One approved senior Latin course.
4. Option from Divisions A and B.

Fourth Year:

1. One approved senior German course.
2. One approved senior Latin course.
3. Philosophy 51.
4. One option.

Fifth Year:

1. One approved senior German course.
2. One approved senior Latin course.
3. Education 54.
4. One option.

(For Honours in Latin and German, see under Dept. of Classics.)

Department of Philosophy

Second Year:

1. Philosophy 2.
2. 3. One option from Division A and one from Division B.
4. 5. Two free options.

Third Year:

1. 2. Philosophy, two courses.
3. Psychology, one course.
4. One option in a second department.

or

1. 2. Psychology, two courses.
3. Philosophy, one course.
4. One option in a second department.

Fourth Year:

1. 2. Philosophy, two courses.
3. Psychology, one course.
4. One option in a second department.

or

1. 2. Psychology, two courses.
3. Philosophy, one course.
4. One option in a second department.

Fifth Year:

1. 2. Philosophy, two courses.
3. Psychology, one course.

4. One option in a second department.

or

1. 2. Psychology, two courses.
3. Philosophy, one course.
4. One option in a second department.

Mathematics 42 (Statistics), Physiology 62, and certain other senior courses, to be selected after consultation with the head of Department, may be substituted for certain of the above courses in Philosophy and Psychology.

Department of Physics

The first two years must include at least Physics 1 and Mathematics 1 (or Grade XII Physics and Mathematics), Chemistry 1, a higher course in Physics and Mathematics 7.

Third Year:

1. Physics 42.
2. Physics 46.
3. Mathematics 22.
4. Mathematics 55.

Fourth Year:

1. Physics, senior course.
2. Physics, another senior course.
3. Physical Chemistry or optional subject.
4. Mathematics 57.

Fifth Year:

1. Physics, senior course.
2. Physics or Mathematical Physics.
3. 4. Directed reading or research, or another senior course in Physics; and an optional subject.

Department of Political Economy

Second Year:

1. Political Economy 1.
2. 3. Philosophy 2, and Mathematics 7 recommended.
4. 5. Two free options.

Third Year:

1. 2. Two courses in Political Economy.
3. Mathematics 61 or 42.
4. One option.

Fourth Year:

1. 2. 3. Three courses in Political Economy.
4. Mathematics 61 or 42.

Fifth Year:

1. 2. Two courses in Political Economy.
3. 4. Two options.

UNIVERSITY OF ALBERTA

SUMMER SESSION, 1930

July 4th—August 15th

The University has always endeavoured to puts its resources at the disposal of teachers, and fully recognizes that it stands in a special relation to the teaching profession of Alberta.

Since 1919 the University has conducted a Summer Session in co-operation with the Summer School for Teachers administered by the Provincial Department of Education. Many teachers have availed themselves of the University courses offered at the Summer Session and have thus been enabled to secure the bachelor's degree.

In 1926 the regulations governing the Summer Session were revised with a view to facilitating the progress of teachers towards degrees. Under the plan now in operation admission to summer courses is on the same basis as to the courses of the winter session; suitably qualified persons not matriculated may, however, be registered as special students on receiving the formal approval of the Committee on Admissions. Satisfactory attendance at a given summer course is deemed as fulfilling the ordinary sessional attendance requirements of the course. At the close of the Summer Session, at which instruction is given involving a general treatment of the courses concerned, there is a preliminary test examination and students on leaving are equipped with syllabi, text-books and references necessary for private study during the winter. Students will be expected to keep in touch during this winter period of private study with the university departments under whose supervision they have been working. Students taking the summer work will write, in connection with the courses studied, in the following spring the final examinations prescribed by the University. Under the present circumstances, more especially for the convenience of teachers, final examinations are conducted during the Easter week vacation at Calgary as well as at Edmonton. Examinations in the courses involved may be held elsewhere than at these two centres if, in due time, circumstances warrant.

The attention of teachers is particularly called to the courses in Psychology and Education especially designed to meet the needs of teachers who are desirous of making themselves conversant with present-day movements and developments in educational science.

The University requires, in the Faculty of Arts, that the study of a language be carried as far at least as the end of the first year. The requirements also involve a laboratory course in science to be taken in either the first or second year. Realizing that these demands involve difficulties of preparation in the case of many teachers other-

wise desirous of undertaking academic work, the University will offer courses from time to time in first year French, Latin, Physics and Chemistry. As an additional facility courses will also be offered at regular intervals in elementary German and first year Mathematics.

In the case of all first year subjects, with the exception of Mathematics, courses will be given—not in accord with the winter study plan described above—but in their entirety with double periods per day throughout the Summer Session. It may be further pointed out that students presenting Physics 2 of the High School are required to select in the second year a course in either Chemistry or Physics; or else to take the laboratory of Physics 1 in the Summer Session.

With regard to first year courses involving three hours' instruction per day, students may register for one course only. In the higher years registration is limited to two courses unless special approval is given. Formerly the giving of a summer course was made contingent upon adequate enrolment. This condition has been removed and all courses announced will be given, subject only to the University's customary reservation of its general right to withdraw or modify any course of instruction announced in the calendar.

Courses to be given at the Summer Session, 1930:

Junior Courses	Senior and Graduate Courses
Chemistry 1.	Chemistry 42.
English 2.	Classics in English 51.
French 2.	English 63.
*German A, A-1.	French 51.
*Latin 1-3.	Mathematics 55.
Mathematics 7.	Political Economy 64.
*Physics 1.	Psychology 51.
	Psychology 55.
	Psychology 105.
	Education 59.

*15 hours per week; final examination at end of Summer Session.

Detailed information respecting these courses, some of the more advanced of which may be taken for higher degrees, will be found under departmental announcements, page 135.

An innovation at the Summer Session of 1930 will be the offering of a Master course in music. The course will be devoted to the piano; it is especially intended for teachers and will extend over the full six weeks of the Summer Session. A special Bulletin containing detailed information may be had upon application to the Registrar.

As the Summer Session is held at the same time as the Departmental Summer School for Teachers, space in the Residential Halls is

always at a premium. In order, therefore, that timely arrangements may be made by the University authorities in respect to both instruction and living accommodation, prospective students are urged to notify the Registrar's and Bursar's offices at the earliest possible date of their intention to attend.

THE B.Sc. DEGREE IN PHARMACY

For registration with the Alberta Pharmaceutical Association students must present evidence of two years of practical experience in the employ of a duly qualified pharmacist, at least one year of which must be completed before the student enters the third year in the University.

JUNIOR COURSES—FIRST YEAR

SUBJECTS	Course No.	Lect. Hrs.	Lab Hrs.	Pge.
English	English 1	3	...	171
Chemistry	Chemistry 1	3	3	149
Latin	Latin 1-3	3	...	158
Mathematics	Mathematics 1	3	...	187
Physics	Physics 1	3	2	212
One of: History, Languages or Sciences not already prescribed.				
Physical Education	Physical Educ.	2	...	230

JUNIOR COURSES—SECOND YEAR

SUBJECTS	Course No.	Lect. Hrs.	Lab. Hrs.	Pge.
Botany	Bot. 1	3	3	147
Chemistry	Chem. 42	3	3	150
English	Eng. 2	3	...	171
*Accountancy	Account. 1	3	...	135
*Mathematics	Math. 7	3	...	188
*History	Hist. 2	3	...	180
*Political Economy	Pol. Ec. 1	3	...	216
*Zoology	Zool. 1	3	3	224
†Latin	Lat. 36	1	...	159

*History 2 is optional with Political Economy 1, and Mathematics 7 and Accountancy 1 are optional with Zoology 1.

†Second half session.

Note: Students entering with Grade XII standing are required to take Physical Education in the second ylear.

THE B.Sc. DEGREE IN HOUSEHOLD ECONOMICS

SENIOR COURSES—THIRD YEAR

SUBJECTS	Course No.	Lect. Hrs.	Lab Hrs.	Pge.
†Botany	Bot. 54	3	3	148
Chemistry	Chem. 41	3	3	150
Materia Medica	M.M. 51	4	...	187
Pharmacy	Pharm. 51	3	...	204
Pharmacy	Pharm. 52	1	...	204
Pharmacy	Pharm. 54	...	6	204
*Toxicology	Toxic. 61	1	...	224

*Second half session.

†Botany 54 to be taken in alternate years by third and fourth year students together. Not to be given in 1930-31.

SENIOR COURSES—FOURTH YEAR

SUBJECTS	Course No.	Lect. Hrs.	Lab. Hrs.	Pge.
*Bacteriology	Bact. 61	1	3	145
Biochemistry	Bioch. 61	3	3	145
†Botany	Bot. 54	3	3	148
Chemistry	Chem. 58	3	3	151
Materia Medica	M.M. 52	4	...	187
Pharmacy	Pharm. 55	...	6	204

*First half session.

†Botany 54 to be taken in alternate years by third and fourth year students together. Not to be given in 1930-31.

SCHOOL OF HOUSEHOLD ECONOMICS

First Year:

1. English 1.
2. Mathematics 1.
3. Physics 1.
*4. Chemistry 1.
5. A Language—French, German, Latin or Greek.
6. One of History, Languages or Sciences not already taken.
7. Physical Education.

Second Year:

1. An approved course from Division A or B.
2. Chemistry 42.
3. Zoology 1, or if Zoology has been taken in the first year, an approved option.

4. Political Economy.
5. Household Economics 2 and 3.
6. Bacteriology 2, first term.
7. Household Economics 1, second term.

Note: Students entering with Grade XII standing are required to take physical education in their second year.

Third Year:

1. One course from Division A or B.
2. Physiology 60.
3. Biochemistry 61.
4. Household Economics 55.
5. Option.

Fourth Year:

1. One course from Division A or B.
2. Chemistry 59.
3. Hygiene and Sanitation 51.
4. Household Economics 56, 57, 58, 59.

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*Chemistry 1. Students coming from Grade XII but presenting Chemistry 2 of the High School will be required to pass the laboratory of Chemistry 1 in second year.

SCHOOL OF COMMERCE

First Year:

As for B.A. or B.Sc. in Arts.

Second Year:

1. Accountancy 1.
2. (a) Geology 33 (first half).
   (b) Political Economy 10 (second half).
3. Modern Language.
4. Political Economy 1.
5. An option.

Note: Students entering with Grade XII standing are required to take physical education in their second year.

Note: Students not choosing a laboratory science in the first year and also those entering with Grade XII standing will be required to take such a course in the second year.

Third and Fourth Years:

1. Commercial Law.
2. Mathematics 61 (Theory of Finance).
3. Mathematics 42 (Statistics). (Not offered 1930-31.)

4. Modern language (continuation of the one already taken in second year).
5. Political Economy 64 (Trade and Transportation). (Not offered 1930-31.)
6. Political Economy 66 (Currency, Banking and Finance).
7. (a) Political Economy 73 (Marketing) (first half). (Not offered 1930-31.)
   (b) Accountancy 55 (Business Administration) (second half). (Not offered 1930-31.)
8. 9. Two senior options.

Students registered in the School of Commerce who desire to read for honours in Political Economy should apply to the Committee on Honours.

NOTE: In considering the second class standings, Political Economy 73 and Accountancy 55 are counted as one course.

SCHOOL OF EDUCATION

The School of Education is organized for the training of secondary school teachers, who, after completing the prescribed courses, will receive certification from the Minister of Education. The School is under the control of a Senate Committee, but all details concerning its administration are ratified by a Liaison Committee representing both the Department of Education and the University.

Pre-Professional Course

Students enroll in the School of Education at the beginning of the second year's undergraduate work. This early enrolment ensures (a) that the necessary pre-requisites to the professional year's work will be arranged, and (b) that throughout three undergraduate years the student may select courses in Arts and Sciences in accordance with teaching needs as he will face them after graduation.

The pre-requisites to the School of Education are normally Philosophy 2, Philosophy 51 and Psychology 51, courses which must be completed for clear entrance to the professional year.

Throughout undergraduate years students who are not in honour courses must select their work in such a manner that they will be prepared to teach one of the following combinations of subjects:

(a) Mathematics, Physics and Chemistry;
(b) Physics, Chemistry, Botany, Geography and Agriculture;
(c) English, History and Moderns;
(d) English, History and Latin;
(e) History, Latin and Moderns.

Professional Year

Normally the professional training is given in the fifth year for graduates from the General course in Arts and Sciences, and in the sixth year for graduates from honour courses.

The prescribed courses of the professional year are Psychology 55, Education 54, Education 58, Education 59, and selected short courses in special subjects such as Art, Geography and Agriculture.

Emphasis is placed upon the practical part of the teacher-training course. A very liberal amount of time is devoted to observation and practice teaching under the direction of the School of Education with its group of demonstrators selected from the Edmonton high school staff.

Types of Certificates

Three types of certificates have been provided: (1) A High School Teacher's Certificate for students who, before the year of professional training, have completed the General Course in the Faculty of Arts and Sciences, (2) a High School Teacher's Certificate with Specialist Standing in designated subjects for those who have graduated from honour courses, and (3) Certificates for teachers of special subjects such as Agriculture, or Household Economics.

Special Regulations

The needs of designated special groups are met by the following regulations:

(a) Honour students may complete all courses in five years and two summer sessions, provided that one summer session's work has been completed before the last year of the honour course, and that Education 58 has been taken in the fifth year.

(b) Any student, who before graduation holds a First Class Professional Certificate will be excused one pre-requisite. This arrangement will make it possible for such a student to take one professional course during undergraduate years without carrying extra subjects. The work of the School of Education will be completed by taking Education 58, Science and Practice of Teaching, during the final year of the Arts course, and then obtaining credit for the remaining professional courses in one summer session after graduating from the Arts course.

(c) Students holding Second Class Professional Certificates may complete the work of the School of Education without the extra year's attendance, provided they take Education 58, Science and Practice of Teaching, in the last year of their undergraduate course

and complete the work of two summer sessions, one of these necessarily preceding the final year of the Arts course.

Limitations

The School of Education certificate is not an elementary school certificate. Primarily the certificate is for the secondary school, but, to serve the needs of this Province where secondary school work is taught in so many small schools, it has been agreed that graduates of the School of Education may be candidates for appointment in any schoolroom devoted to high school instruction or to the instruction of any combination of grades from VII to XII, provided only that secondary school work is taught in such classroom.

FACULTY OF APPLIED SCIENCE

The University offers two groups of undergraduate courses in Applied Science leading to the B.Sc. degree; one in Engineering (Civil, Chemical, Electrical, Mining), the other in Architecture. In addition courses including certain special combinations of studies may be given to those students who are looking forward to the professions of Engineering Physics or Engineering Chemistry, and have shown particular ability and aptitude in these and affiliated subjects.

Graduate work also is offered leading to the M.Sc. degree.

For information about all of the above courses students should consult the Dean.

THE B.Sc. DEGREE IN ENGINEERING

The requirements of the pre-engineering and first years of the four Engineering divisions are common to all. In the second year a choice is offered between (Civil and Electrical) or (Chemical and Mining). For this year the requirements in Civil and Electrical are almost identical and likewise in Chemical and Mining. These junior years are designed to lay the general foundation in mathematics, drawing, and in physical and chemical sciences, necessary for specialization in the various branches of Engineering in the last two years. In the pre-engineering year a course is offered in French or German, specially adapted to an applied science curriculum and in the second year a short course is given in the History of Science.

Students of this University who may wish to continue their study in branches of engineering, in which the equipment for third and fourth year work has not been completed, may finish their courses at certain universities in Eastern Canada, where according to arrangement, they will be admitted ad eundem statum.

As announced in the previous calendar, the entire curriculum in the Faculty of Applied Science has been revised.

Two sessions will be necessary to bring the new curriculum completely into effect.

New students entering the Pre-engineering year will proceed with the courses of the new curriculum as set forth in the pages immediately following.

All other students will be given courses as set forth on pages 99 to 105.

JUNIOR COURSES—PRE-ENGINEERING YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
English	Eng. 1	3	...	3	...	171
Mathematics	Math. 2	6	...	6	...	187
Physcis	Phys. 1	3	2	3	2	212
One of: History	Hist. 1	3	...	3	...	180
One of: Botany	Bot. 1	3	3	3	3	147
One of: Zoology	Zool. 1	3	3	3	3	224
One of: French	French 34	3	...	3	...	197
One of: German	German 34	3	...	3	...	199
One of: Latin	Lat. 1-3	3	...	3	...	158
One of: Greek	Greek 2	3	...	3	...	160
Phys. Educ.		2	...	2	...	230

ENGINEERING—FIRST YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Chemistry	Chem. 1	3	3	3	3	149
Science and Engineering	C.E. 10	1	...	...	...	154
Mechanical Drawing	Draw. 2	...	3	...	...	167
Descriptive Geometry	Draw. 4	2	3	2	3	168
Element. Math. Analysis	Math. 21	4	...	4	...	188
Element. Mechanics	Math. 22	3	...	3	2	188
Physics	Phys. 3	3	2	3	2	212
*Surveying	C.E. 5	...	...	2	...	153
*Survey Field Work	C.E. 6	...	...	...	...	153
†Physical Education	Phys. Ed.	2	...	2	...	230

*Credits for these courses are included with the work of the following year.

Exemption from attendance at Survey School may be granted in special cases to those students whose previous experience or engagement in similar work is satisfactory to the Faculty Council.

†If not already taken.

B.Sc. IN ENGINEERING

A—CIVIL ENGINEERING

JUNIOR COURSES—SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Materials of Construction	C.E. 3	2	...	2	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Engineering Problems	C.E. 12	...	...	...	3	154
Drawing	Draw. 6	...	3/2	..	3/2	168
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 30	3	...	...	3	178
Calculus	Math. 25	3	...	3	...	188
Mechanics	Math. 26	2	2	2	...	188
Physics	Phys. 46	3	2	3	2	213
*Survey Field Work	C.E. 7	...	...	...	...	154
*Applied Astronomy	C.E. 8	...	...	...	...	154

*Credits for these courses are included with the work of the following year.

Exemption from attendance at Survey School may be granted in special cases to those students whose previous experience or engagement in similar work is satisfactory to the Faculty Council.

Students in Civil Engineering are strongly advised to work in a drafting office during one summer, in order to gain necessary practical experience.

SENIOR COURSES—THIRD YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Elements of Mech. Eng.	C.E. 57	2	3/2	2	3/2	155
Elements of Struct. Design	C.E. 62	2	3	2	3	155
Engineering Construction	C.E. 77	2	3/2	...	3/2	157
Hydrology	C.E. 78	...	3	...	3	157
Water Supply Engineering	C.E. 81	...	...	2	...	157
Strength of Materials	C.E. 83	...	...	2	...	157
Elements of Elec. Eng.	E.E. 53	2	3/2	2	3/2	169
Elementary Hygiene	Hyg. 51	1	...	...	...	145
Graphical and Numerical Methods	Math. 63	2	...	2	...	190
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216

SENIOR COURSES—FOURTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Foundations	C.E. 52	2	...	2	3	155
Theory of Structures	C.E. 53	3	...	3	...	155
Structural Design	C.E. 63	2	3	2	3	156
Materials of Construction	C.E. 66	1	3	1	3	156
Water Power Engineering	C.E. 68			3	3	156
Land Transportation	C.E. 74	3	...	3	...	156
Town Planning	C.E. 76	1	3	...	...	156
Sewerage	C.E. 82	2	3	...	...	157
*Option		3	...	3	...	.....

*To be approved by the Department of Civil Engineering.

Students looking forward to following a career in city management should include a course in Municipal Accountancy, ½ term 3 hrs. per week.

B—CHEMICAL ENGINEERING

JUNIOR COURSES—SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Materials of Construction	C.E. 3	2	...	2	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Inorganic Chemistry	Chem. 41	3	3	3	3	150
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 32	3	...	2	3	178
Calculus	Math. 25	3	...	3	...	188
Physics	Phys. 46	3	2	3	2	213
†Practical Experience	Chem. 63	...	...	...	...	152
*Survey Field Work	C.E. 7	...	...	...	...	154
*Applied Astronomy	C.E. 8	...	...	...	...	154

*These two courses are not obligatory for students in Chemical Engineering. Those who desire to take them must register for them by the beginning of the second term.

†Credit for this is not essential to the completion of any particular year, but must be obtained before graduation.

B.Sc. IN ENGINEERING

SENIOR COURSES—THIRD YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Organic Chemistry	Chem. 52	3	3	3	3	150
Physical Chemistry	Chem. 54	3	3	3	3	150
Quantitative Analysis	Chem. 56	2	6	2	6	150
Mineralogy	Geol. 52	2	3	2	3	178
Elementary Hygiene	Hyg. 51	1	...	...	...	145
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216

SENIOR COURSES—FOURTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Elements of Mech. Eng.	C.E. 57	2	3/2	2	3/2	155
Industrial Chemistry	Chem. 62	3	...	3	...	151
Organic Chemistry	Chem. 101	3	6	3	6	152
or						
Organic Chemistry	Chem. 102	3	6	3	6	152
or						
Physical Chemistry	Chem. 103	3	6	3	6	152
Elements of Elec. Eng.	E.E. 53	2	3/2	2	3/2	169
Metallurgy	M.E. 85	3	...	3	...	195
Metallography	M.E. 88	...	3	...	...	195
Ore Dressing	M.E. 81	2	3	...	3	194

C—ELECTRICAL ENGINEERING

JUNIOR COURSES—SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Materials of Construction	C.E. 3	2	...	2	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Engineering Problems	C.E. 12	...	...	...	3	154
Drawing	Draw. 6	...	3/2	...	3/2	168
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 30	3	...	...	3	178
Calculus	Math. 25	3	...	3	...	188
Mechanics	Math. 26	2	2	2	...	188
Physics	Phys. 46	3	2	3	2	213
*Survey Field Work	C.E. 7	...	...	...	...	154
*Applied Astronomy	C.E. 8	...	...	...	...	154

*These two courses are not obligatory for students in Electrical Engineering. Those who desire to take them must register for them by the beginning of the second term.

SENIOR COURSES—THIRD YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Elements of Mech. Eng.	C.E. 57	2	3/2	2	3/2	155
Electrochemistry	Chem. 60	...	...	3	...	151
Principles of Elec. Eng.	E.E. 51	3	6	3	6	168
Machine Design	E.E. 54	...	...	3	...	169
Mechanics of Machines	E.E. 55	1	2	...	...	169
Elementary Hygiene	Hyg. 51	1	...	...	...	145
Differential Equations	Math. 59	3	...	...	...	189
Electrical Measurements	Phys. 53	2	3	2	3	213
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216

B.Sc. IN ENGINEERING

SENIOR COURSES—FOURTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Principles of Elec. Eng.	E.E. 76	3	6	3	6	169
Electrical Machine Design	E.E. 77	1	3	1	3	170
Electrical Power Transmission and Distribution	E.E. 78	2	...	2	...	170
Electrical Communication	E.E. 80	...	...	2	...	170
Applications of Electrical Power	E.E. 81	2	3/2	2	3/2	170
Electron Theory	Phys. 55	3	...	...	...	214
*Option		3	...	3	...	.....
or						
*Thesis	E.E. 82	3	...	3	...	.....

*To be approved by the Department of Electrical Engineering.

D—MINING ENGINEERING

JUNIOR COURSES—SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Materials of Construction	C.E. 3	2	...	2	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Inorganic Chemistry	Chem. 41	3	3	3	3	150
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 32	3	...	2	3	178
Calculus	Math. 25	3	...	3	...	188
Fire Assaying	M.E. 41	1	3/2	...	3/2	192
Physics	Phys. 46	3	2	3	2	213
*Survey Field Work	C.E. 7	...	...	...	...	154
*Applied Astronomy	C.E. 8	...	...	...	...	154
†First Aid	M.E. 76	...	...	...	...	194
†Practical Experience	M.E. 78	...	...	...	...	.....

*Credits for these courses are included with the work of the following year.

Exemption from attendance at Survey School may be granted in special cases to those students whose previous experience or engagement in similar work is satisfactory to the Faculty Council.

†Credits for these are not essential to the completion of any particular year, but must be obtained before graduation.

UNIVERSITY OF ALBERTA

SENIOR COURSES—THIRD YEAR

SUBJECTS	Course No.	First Half		Sec. Half		Pge.
		Lect.	Lab.	Lect.	Lab.	
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Elements of Mech. Eng.	C.E. 57	2	3/2	2	3/2	157
Quantitative Analysis	Chem. 56	2	6	2	6	150
Elements of Elec. Eng.	E.E. 53	2	3/2	2	3/2	169
Mineralogy	Geol. 52	2	3	2	3	178
Elements of Hygiene	Hyg. 51	1	...	...	...	145
Fuels and Refractories	M.E. 71	2	3/2	2	3/2	193
Principles of Mining	M.E. 72	2	...	2	3	193
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216
*Mine Survey School	M.E. 57	...	...	...	...	193

*Offered in alternate years when students in third and fourth years take it together.

SENIOR COURSES, MINING AND METALLURGY—FOURTH YEAR

SUBJECTS	Course No.	First Half		Sec. Half		Pge.
		Lect.	Lab.	Lect.	Lab.	
Petrology	Geol. 50	2	3	...	...	178
Mineral Deposits	Geol. 60	3	...	3	3	180
Mining Methods	M.E. 73	3	...	3	...	193
Mine Design	M.E. 74	...	3	...	3	194
Ore Dressing	M.E. 81	2	3	...	3	194
Metallurgy	M.E. 84	3	...	3	...	195
Metallography	M.E. 87	...	3	...	3	195
Two electives from the following:						
Mine Design	M.E. 75	..	3	...	3	194
Ore Dressing	M.E. 83	...	3	...	3	195
Metallurgy	M.E. 85	...	3	...	3	195
Metallography	M.E. 89	...	3	...	3	196

SENIOR COURSES, MINING GEOLOGY—FOURTH YEAR

SUBJECTS	Course No.	First Half		Sec. Half		Pge
		Lect.	Lab.	Lect.	Lab.	
Petrology	Geol. 54	3	3	3	3 3/2	179
Stratigraphy	Geol. 56	3	3	3	3	179
Mineral Deposits	Geol. 58	3	3	3	3	179
Mining Methods	M.E. 73	3	...	3	...	193
Mine Design	M.E. 74	...	3	...	3	194
Ore Dressing	M.E. 82	2	3	...	3/2	194

B.Sc. IN ENGINEERING

JUNIOR COURSES—ENGINEERING FIRST YEAR

SESSION 1930-1931

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
*Materials of Construction	C.E. 3	2	...	2	...	153
Science and Engineering	C.E. 10	1	...	...	...	154
Mechanical Drawing	Draw. 2	...	3	...	3	167
Descriptive Geometry	Draw. 4	2	3	2	3	168
Elementary Mathematical Analysis	Math. 21	4	...	4	...	188
Elementary Mechanics	Math. 22	3	...	3	2	188
Physics	Phys. 3	3	2	3	2	212
†Surveying	C.E. 5	...	...	2	...	153
†Survey Field Work	C.E. 6	...	...	...	...	153
‡Physical Education	Phys. Ed.	...	...	...	...	.....

*Students entering from Grade XII without High School Chem. 2 shall substitute Chem. 1 for this course.

†Credits for these courses are included with the work of the following year.

Exemption from attendance at Survey School may be granted in special cases to those students whose previous experience or engagement in similar work is satsifactory to the Faculty Council.

‡If not already taken.

A—CIVIL ENGINEERING

JUNIOR COURSES—SECOND YEAR
SESSION 1930-1931

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Chemistry	Chem. 1	3	3	3	3	149
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 30	3	...	...	3	178
Drawing	Draw. 6	...	3/2	...	3/2	168
Calculus	Math. 25	3	...	3	...	188
Mechanics	Math. 26	2	2	2	...	188
Physics	Phys. 46	3	2	3	2	213
*Survey Field Work	C.E. 7	...	...	...	...	154
*Applied Astronomy	C.E. 8	...	...	...	...	154

*Credits for these courses are included with the work of the following year.

Exemption from attendance at Survey School may be granted in special cases to those students whose previous experience or engagement in similar work is satisfactory to the Faculty Council.

Students in Civil Engineering are strongly advised to work in a drafting office during one summer, in order to gain necessary practical experience.

SENIOR COURSES—THIRD YEAR
SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Elements of Mech. Eng.	C.E. 57	2	3/2	2	3/2	155
Elements of Structural Design	C.E. 62	2	3	2	3	155
Water Supply Engineering	C.E. 81	...	...	2	...	157
Strength of Materials	C.E. 83	...	...	2	...	157
Elements of Elec. Eng.	E.E. 53	2	3/2	2	3/2	169
Elementary Hygiene	Hyg. 51	1	...	...	...	145
Graphical and Numerical Methods	Math. 63	2	0	2	...	190
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216

Students looking forward to following a career in city management should include a course in Municipal Accountancy, ½ term, 3 hrs. per week.

B.Sc. IN ENGINEERING

SENIOR COURSES—FOURTH YEAR
SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Foundations	C.E. 52	2	...	2	3	155
Theory of Structures	C.E. 53	3	...	3	...	155
Structural Design	C.E. 63	2	3	2	3	156
Materials of Construction	C.E. 66	1	3	1	3	156
Water Power Engineering	C.E. 68	...	...	1	3	156
Land Transportation	C.E. 74	3	...	3	...	156
Town Planning	C.E. 76	1	3	...	...	156
Water Supply Engineering	C.E. 81	...	...	2	...	157
Sewerage	C.E. 82	2	3	...	...	157
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216

B—CHEMICAL ENGINEERING

JUNIOR COURSES—SECOND YEAR
SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Materials of Construction	C.E. 3	2	...	2	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Chemistry	Chem. 1	3	3	3	3	149
*Practical Experience	Chem. 63	...	...	...	...	152
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 32	3	...	2	3	178
Calculus	Math. 25	3	...	3	...	188
Physics	Phys. 46	3	2	3	2	213
†Survey Field Work	C.E. 7	...	...	...	...	154
†Applied Astronomy	C.E. 8	...	...	...	...	154

*Credit for this is not necessary to any particular year, but is essential as a degree requirement.

†These two courses are not obligatory for students in Chemical Engineering. Those who desire to take them must register for them by the beginning of the second term.

UNIVERSITY OF ALBERTA

SENIOR COURSES—THIRD YEAR

SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Inorganic Chemistry	Chem. 41	3	3	3	3	150
Organic Chemistry	Chem. 42	3	3	3	3	150
Physical Chemistry	Chem. 54	3	3	3	3	150
Mineralogy	Geol. 52	2	3	2	3	178
Elementary Hygiene	Hyg. 51	1	...	...	...	145

SENIOR COURSES—FOURTH YEAR

SESSION 1930-31

SUBJECTS	Course No.	Lect. First Half	Lab. First Half	Lect. Sec. Half	Lab. Sec. Half	Pge
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Analytical Chemistry	Chem. 58	3	3	3	3	151
Industrial Chemistry	Chem. 62	3	...	3	...	151
Organic Chemistry	Chem. 101	3	3	3	3	152
or						
Organic Chemistry	Chem. 102	3	3	3	3	152
or						
Physical Chemistry	Chem. 103	3	3	3	3	152
Ore Dressing	M.E. 81	2	3	...	3	194
Metallurgy	M.E. 85	3	...	3	...	195
Metallography	M.E. 88	...	3	...	...	195
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216

C—ELECTRICAL ENGINEERING

JUNIOR COURSES—SECOND YEAR

SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Drawing	Draw. 6	...	3/2	...	3/2	168
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 30	3	...	...	3	178
Chemistry	Chem. 1	3	3	3	3	149
Calculus	Math. 25	3	...	3	...	188
Mechanics	Math. 26	2	2	2	...	188
Physics	Phys. 46	3	2	3	2	213
*Survey Field Work	C.E. 7	...	...	...	...	154
*Applied Astronomy	C.E. 8	...	...	...	...	154

*These two courses are not obligatory for students in Electrical Engineering. Those who desire to take them must register for them by the beginning of the second year.

SENIOR COURSES—THIRD YEAR

SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Elements of Mech. Eng.	C.E. 57	2	3/2	2	3/2	155
Electrochemistry	Chem. 60	...	...	3	...	151
Principles of Elec. Eng.	E.E. 51	3	6	3	6	168
Machine Design	E.E. 54	0	...	2	...	169
Mechanics of Machines	E.E. 55	1	1	...	...	169
Elementary Hygiene	Hyg. 51	1	...	...	...	145
Differential Equations	Math. 59	3	...	...	...	189
Electrical Measurements	Phys. 53	2	3	2	3	213

SENIOR COURSES—FOURTH YEAR

SESSION 1930-31

SUBJECTS	Course No.	First Half		Sec. Half		Pge
		Lect.	Lab.	Lect.	Lab.	
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Principles of Elec. Eng.	E.E. 76	3	6	3	6	169
Electrical Machine Design	E.E. 77	1	3	1	3	170
Electrical Power Transmission and Distribution	E.E. 78	2	...	2	...	170
Electrical Communication	E.E. 80	...	...	2	...	170
Applications of Electrical Power	E.E. 81	2	3/2	2	3/2	170
Electron Theory	Phys. 55	3	...	...	...	214
Principles of Pol. Ec.	Pol. Ec. 51	3	...	3	...	216

D—MINING ENGINEERING

JUNIOR COURSES—SECOND YEAR

SESSION 1930-31

SUBJECTS	Course No.	First Half		Sec. Half		Pge
		Lect.	Lab.	Lect.	Lab.	
Statics	C.E. 1	2	...	2	...	153
Mapping	C.E. 2	...	3	...	...	153
Materials of Construction	C.E. 3	2	...	2	...	153
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Chemistry	Chem. 1	3	3	3	3	149
History of Science	E.E. 1	...	...	2	...	168
Geology	Geol. 32	3	...	2	3	178
Calculus	Math. 25	3	...	3	...	188
Physics	Phys. 46	3	2	3	2	213
†Survey Field Work	C.E. 7	...	...	...	...	154
†Applied Astronomy	C.E. 8	...	...	...	...	154
*First Aid	M.E. 76	...	...	...	...	194
*Practical Experience	M.E. 78	...	...	...	...	.....

*Credits for these are not essential to the completion of any particular year, but must be obtained before graduation.

†Credits for these courses are included with the work of the following year.

Exemption from attendance at Survey Field Work may be granted in special cases to those students whose previous experience or engagement in similar work is satisfactory to the Faculty Council.

B.Sc. IN ENGINEERING

SENIOR COURSES—THIRD YEAR
SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Hydraulics	C.E. 55	2	3/2	2	3/2	155
Elements of Mech. Eng.	C.E. 57	2	3/2	2	3/2	157
Inorganic Chemistry	Chem. 41	3	3	3	3	150
Elements of Elec. Eng.	E.E. 53	2	3/2	2	3/2	169
Mineralogy	Geol. 52	2	3	2	3	178
Elementary Hygiene	Hyg. 51	1	...	...	...	145
Fire Assaying	M.E. 41	1	3	...	...	192
Fuels and Refractories	M.E. 71	2	...	2	...	193
Principles of Mining	M.E. 72	2	...	2	3	193
*Mine Survey School	M.E. 57	...	...	...	...	193

*Offered in alternate years when students of the third and fourth years take it together.

SENIOR COURSES—MINING AND METALLURGY—FOURTH YEAR
SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Elements of Mech. Eng.	C.E. 57	2	...	2	...	155
Analytical Chemistry	Chem. 58	3	3	3	3	151
Elements of Elec. Eng.	E.E. 53	2	3/2	2	3/2	169
Petrology	Geol. 50	2	3	...	...	178
Mineral Deposits	Geol. 60	3	...	3	3	180
Mining Methods	M.E. 73	3	...	3	...	193
Mine Design	M.E. 74	...	3/2	...	3/2	194
Ore Dressing	M.E. 81	2	3	...	3	194
Metallurgy	M.E. 84	3	...	3	...	195
Metallography	M.E. 87	...	3	...	3	195

SENIOR COURSES—MINING GEOLOGY—FOURTH YEAR
SESSION 1930-31

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Analytical Chemistry	Chem. 58	3	3	3	3	151
Petrology	Geol. 54	3	3	3	3	179
Stratigraphy	Geol. 56	3	3	3	3	179
Mineral Deposits	Geol. 58	3	...	3	3	179
Mining Methods	M.E. 73	3	...	3	...	193
Mine Design	M.E. 74	...	3/2	...	3/2	194
Ore Dressing	M.E. 82	2	3	...	3/2	194

THE B.Sc. DEGREE IN ARCHITECTURE

The course in Architecture consists of a four year curriculum based on the pre-architectural year as set forth below. The requirements of this year can be met alternately by taking the course in Drawing 3 and the following subjects from Grade XII: English Composition 4, English Literature 4, ,the third unit of the language of Matriculation, History 4, either Physics 2 or Chemistry 2, Algebra 3, Geometry 3, Trigonometry 1.

PRE-ARCHITECTURAL YEAR

SUBJECTS		Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
	English	Eng. 1	3	...	3	...	171
	Mathematics	Math. 1	3	...	3	...	187
One of	French	French 1	3	...	3	...	196
	German	German 2	3	...	3	...	199
	Latin	Latin 1-3	3	...	3	...	158
	Greek	Greek 2-4	3	...	3	...	180
	History	Hist. 1	3	...	3	...	180
One of	Physics	Phys. 1	3	2	3	2	212
	Chemistry	Chem. 1	3	3	3	3	149
	Drawing	Draw. 3	...	6	...	6	168
	Phys. Educ.		...	...	...	...	230

JUNIOR COURSES—FIRST YEAR

SUBJECTS		Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
	Arch. Drawing	Draw. 1	...	3	...	3	167
	Descrip. Geom.	Draw. 4	2	3	2	3	168
	French	French 2	3	...	3	...	197
	German	German 47	3	...	3	...	199
One of	Greek	Greek 51, 52, 53 or 54	3	...	3	...	161
	Latin	Latin 2-4	3	...	3	...	158
	Ancient History	Anc. Hist. 51	3	...	3	...	162
One of	Classics in Eng.	Cl. in Eng. 51	3	...	3	...	162
	Mathematics	Math. 7	3	...	3	...	188
	Build. Const.	Arch. 5	...	6	...	6	140
	Mapping	C.E. 2	...	3	...	...	153
	*Surveying	C.E. 5	...	...	2	...	153
	*Surv. Fieldwork	C.E. 6	...	...	...	...	153
	†Phys. Educ.		...	...	...	...	230

*Credits for these courses are included with the work of the following year.

Exemption from attendance at Survey School may be granted in special cases to those students whose previous experience or engagement in similar work is satisfactory to the Faculty Council.

†If not already taken.

B.Sc. IN ARCHITECTURE

JUNIOR COURSES—SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge
Architectural Drawing	Arch. 2	...	6	...	6	139
Architectural Design	Arch. 3	...	6	...	6	139
History of Architecture	Arch. 4	3	...	3	...	140
Decorative Arts	Arch. 6	1	3	1	3	140
Building Construction	Arch. 7	...	6	...	6	.....
Materials of Construction	C.E. 3	2	...	2	...	153
One of { Ancient History	Anc. Hist. 51	3	...	3	...	162
One of { Classics in Eng.	Cl. in Eng. 51	3	...	3	...	162

SENIOR COURSES—THIRD YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Architectural Drawing	Arch. 51	...	3	...	3	140
Architectural Design	Arch. 52	1	6	1	6	140
History of Architecture	Arch. 55	3	...	3	...	140
Decorative Arts	Arch. 56	1	3	1	3	141
Building Construction	Arch. 61	...	6	...	6	141
Specifications	Arch. 58	2	...	...	...	141
Ventilating and Heating	Arch. 60	...	...	2	...	141
Hygiene	Hyg. 51	1	...	...	...	145
Applied Mechanics	C.E. 1	2	...	2	...	153

SENIOR COURSES—FOURTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Architectural Design	Arch. 52	...	9	...	12	140
Decorative Arts	Arch. 57	...	3	...	3	141
Strength of Materials	C.E. 11	2	3/2	2	3/2	154
Town Planning	C.E. 76	1	3	...	...	156
Materials of Construction	C.E. 79	1	3	...	...	157
Structural Design	C.E. 80	2	3	2	3	157

COMBINED COURSES

I.—COMBINED COURSE LEADING TO THE DEGREEES OF B.A. AND B.Sc. IN ENGINEERING

This course is under consideration and no new students will be admitted to it for the session 1930-1931. The following regulations apply to students entering the Combined Course for the B.A. and B.Sc. degrees under the Faculty of Applied Science:

(1) A student cannot register in this Combined Course if he has any conditions or deficiencies.

(2) Registration must be approved by the Faculty of Applied Science before the student begins work.

(3) At the end of the first year the student's record will be reviewed; if his record is unsatisfactory he must discontinue the Combined Course.

The same regulations will apply to students entering the second year of the Combined Course directly from the High Schools.

First Year:

1. English 1.
2. One first year Language.
3. Mathematics 1.
4. Physics 1.
5. 6. Two of History 1, Zoology 1, Languages not already chosen.
7. Physical Education.

Second Year:

1. One Junior Course from Division B.
2. Language from Division A (one of the languages studied in the first year).
3. Chemistry 1.
4. Mathematics 21.
5. Mathematics 22 (Mechanics).
6. Zoology 1 or Botany 1.

Note: Students entering with Grade XII standing must take physical education in the second year.

Third Year:

1. 2. Two Senior Courses from Divisions A and B.
3. Mathematics 55 (Calculus).
4. Physics 3, 42, 46, or 48.
5. Geology 41.
6. Drawing 2 and 4.

*7. C.E. 5 and C.E. 6.

B.Sc. IN ARCHITECTURE

Fourth Year:

*1. C.E. 7 (Survey Field Work), C.E. 8 (App. Astronomy).
2. 3. Two Senior Courses from Divisions A and B.
4. One Senior Course from Division C (Physics 46 if not already taken).
5. Math. 56 (Mechanics) or (M.E. 41 and Chem. 41).
6. C.E. 1 (Statics).
7. C.E. 3 (Materials of Construction).
8. Drawing 6 (Mechanisms).
9. C.E. 2 (Mapping) (1st half).

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*Credits for these courses are included with those of the following year. Exemption from attendance at Survey School may be granted in special cases to those students whose previous experience or engagement in similar work is satisfactory to the Faculty Council.

Where any of the courses previously taken are equivalent to the courses required in the fourth and fifth years of Applied Science, substitute courses must be arranged in conjunction with the Department concerned.

The B.A. degree may be granted at the end of the fourth year.

Fifth Year:

As in Applied Science, third year of Department chosen.

Sixth Year:

As in Applied Science, fourth year of Department chosen.

II.—COMBINED COURSE LEADING TO THE DEGREES OF B.A. AND B.Sc. IN ARCHITECTURE

See regulations under Combined Courses on page 108.

First Year:

1. As for Arts and Pre-Engineering, including History 1 and French 1.

Second Year:

1. English 2 or its equivalent.
2. French 2.
3. Chemistry 1.
4. Political Economy 1.
5. Mathematics 21.
6. Mathematics 22 (Mechanics).

Note: Students entering with Grade XII standing must take physical education in the second year.

Third Year:

1. English 52 or 53 or 59.
2. French 52.
3. Ancient History 51.
4. Physics 3.
5. Architecture 62.
6. Drawing 3.
7. Drawing 4.

Fourth Year:

1. 2. Two Senior Courses from Divisions A and B.
3. One Senior Course from Division C.
4. C.E. 2 (Mapping).
5. Arch. 4 (History of Architecture).
6. Arch. 5 (Building Construction).
7. Drawing 1.
8. Arch. 6. (Decorative Arts).
9. C.E. 6 (Survey Field Work).

The B.A. degree may be granted at the end of the fourth year.

Fifth Year:

As in Third Year Architecture.

Sixth Year:

As in Fourth Year Architecture.

FACULTY OF MEDICINE

Three courses are offered, one leading to the degree of Doctor of Medicine, another to the degree of Doctor of Dental Surgery, and the third to the degree of Bachelor of Science in Nursing.

THE DEGREE OF DOCTOR OF MEDICINE

The course leading to this degree is arranged on the basis of a six-year curriculum.

The attention of students is called to the Combined Courses leading to the degrees of B.A., M.D.; B.Sc., M.D.; B.A., D.D.S.; and B.Sc., D.D.S., details of which are given on page 115.

An arrangement has been made whereby it is possible for a student in medicine to take a year of special work in a branch of medical science. Full particulars may be obtained from the Registrar.

MEDICINE

FIRST YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Botany	Bot. 2	3	2	3	2	147
Zoology	Zool. 2	3	3	3	3	224
Chemistry	Chem. 2	3	6	3	6	129
Physics	Phys. 11	3	2	3	2	212
French or German	French 36 or	3	...	3	...	197
	German 36	3	...	3	...	200
Mathematics	Math. 32	3	...	...	...	188
Physical Education		...	2	...	2	230

SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Gross Anatomy	Anat. 4	2	12	...	...	137
Gross Anatomy	Anat. 10	...	...	2	9	137
Histology	Anat. 2 & 5	3	4	...	...	137
Splanchnology	Anat. 12)	...	...	3	7	137
Embryology (Human)	Anat. 14)	...	...	...	...	137
Embryology	Zool. 3	2	3	...	...	225
Organic Chemistry	Chem. 3	3	...	3	3	149
Bacteriology	Bact. 1	1	3	...	...	144

THIRD YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Gross Anatomy	Anat. 53	1	9	1	5	138
Applied Anatomy	Anat. 54	1	3	1	3	138
Neurology	Anat. 60	...	...	2	4	138
Bacteriology	Bact. 51	1	2	1	2	144
Biochemistry	Biochem. 1	3	3	3	3	145
Materia Medica	Mat. Med. 3	2	...	2	...	186
Physiology	Physiol. 71	3	3	3	3	215
Psychology	Psychol. 60	...	...	2	...	208

UNIVERSITY OF ALBERTA

FOURTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Medicine	Clin. Med. 51	1	9	1	9	190
Surgery	Clin. Surg. 51	1	7	1	7	221
Physiology	Physiol. 72	3	3	3	3	215
Biochemistry	Biochem. 51	...	3	...	3	146
Pharmacology	Pharm'col. 72	2	3	2	3	215
Pathology	Path. 51	4	2	2	4	202
Clinical Microscopy	Path. 52	...	2	...	...	203
Psychopathology	Psych. 61	1	...	1	...	208
Obstetrics	Obst. & Gyn. 51	...	...	2	...	202
Surgical Anatomy	Surg. Anat. 55	2	...	2	...	138
*Pharmacy	Pharm. 3	1	...	...	...	204

*Six laboratory periods of two hours each in Pharmacy 3 to be arranged on Thursday afternoon, second half.

FIFTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Medicine	Med. & Clin. Med. 52	2	10½	2	10½	190
Surgery	Surg. & Clin. Surg. 52	1	6	1	6	221
Surgical Anatomy	Surg. Anat. 56	1	...	1	...	223
Obstetrics and Gynaecology	Obst. & Gyn. 52	1	3	1	3	203
Pathology	Path. 53	2	2	2	2	203
Clinical Laboratory	Clin. Lab. 54	...	...	...	4	203
Clinical Pathology	Path. 55	...	2	...	2	203
Ophthalmology	Ophth. 51	...	...	...	1	222
Rhino-Oto-Laryngology	R.-O.-L. 51	...	1	...	...	222
Hygiene	Hygiene 53	1	...	1	2†	145
Therapeutics	Thera. 51	1½	...	1½	...	191
Med. Jurisprudence and Toxicology	Med. Jur. & Toxicol. 51	1	...	1	...	203
Path. Chem.	Biochem. 52	1	...	1	...	147
Psychopathology	Phychol. 62	1	...	...	...	208
*History of Medicine	Hist. of Med.	1	...	1	...	.....

†8 2-hr. periods.

DENTISTRY

SIXTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
*Medicine	Clin. Med. 53	2	11	2	11	191
†Surgery	Clin. Surg. 53	1	6	1	6	221
Obs. and Gynaecology	Obst. & Gyn. 53	1	5	1	5	203
Clinical Pathology	Path. 55	...	1	...	...	203
Ophthalmology	Ophth. 52	...	1	...	...	222
Rhino-Oto-Laryngology	R.-O.-L. 52	...	...	...	1	222
Psychiatry	Psychiatry 62	...	...	1	...	192
Therapeutics	Thera. 52	...	2	...	2	192
Radiology	Radio. 51	1	...	...	...	222
Clinical Physiology	Physiol. 73	...	1	...	...	215

*Including: Pediatrics, Tuberculosis, Contagious Diseases, Neurology, Dermatology and Cardiology.

†Including: Urology, Orthopaedics.

Students will act as assistants to the Internes at the University Hospital. Out-of-town students will be required to live in residence.

THE DEGREE OF DOCTOR OF DENTAL SURGERY

The course leading to the degree is arranged on the basis of a five-year curriculum. Subject to the adjustment of time-table difficulties, arrangements will be made to accommodate students who wish to proceed to the degrees of D.D.S. and M.D.

FIRST YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Botany	Bot. 2	3	3	3	3	147
Zoology	Zool. 2	3	3	3	3	224
Chemistry	Chem. 2	3	6	3	6	149
Physics	Physics 11	3	2	3	2	212
French or German	French 36 or	3	...	3	...	197
	German 36	3	...	3	...	200
Mathematics	Math 32	3	...	...	...	188
Physical Education		...	2	...	2	230

SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Gross Anatomy	Anat. 20	2	2	...	...	139
Gross Anatomy	Anat. 22	...	...	2	3	139
Odontology	Anat. 6 & 8	1	4	1	4	138
Histology	Anat. 11	3	4	...	...	138
Splanchnology	Anat. 13 & 15	...	...	3	7	139
Organic Chemistry	Chem. 3	3	...	3	3	149
Prosthetic Dentistry	Dent. 1	1	7	1	7	164
Embryology	Zool. 3	2	3	...	...	225
Bacteriology	Bact. 1	1	3	...	...	144

THIRD YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Anatomy	Anat. 23	1	4	1	4	139
Materia Medica	Mat. Med. 4	2	...	2	...	186
Prosthetic Dentistry	Dent. 3a	1	3	1	3	164
	Dent. 3b.	1	3	1	3	165
Operative Dentistry	Dent. 2	1	4	1	4	164
Metallurgy	Chem. 61	1	2	1	2	151
Biochemistry	Biochem. 1	3	3	3	3	145
Physiology	Physiol. 51	3	3	3	3	215
Bacteriology	Bact. 51	1	2	1	2	145

FOURTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Medicine	Med. 54	1	...	1	...	191
Surgery	Surg. 54	1	...	1	...	222
Pathology, General	Path. 51	4	2	2	4	202
Pathology, Dental	Path. 56	1	...	1	...	203
Orthodontia	Ortho. 55	1	2	1	2	166
Operative Dentistry	Dent. 52	1	7	1	7	165
Exodontia	Dent. 54	1	...	1	...	165
Radiology	Dent. 56	...	...	1	...	166
Prosthetic Dentistry	Dent. 51	1	7	1	7	165
Crown & Bridge	Dent. 53	1	3	1	5	165
Pharmacology	Pharm'col. 70	...	3	...	3	216
Physiology	Physiol. 52	3	...	...	...	215

COMBINED COURSE

FIFTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Prosthetic Dentistry	Dent. 61	1	6	1	6	166
Operative Dentistry	Dent. 62	1	11	1	11	166
Crown & Bridge	Dent. 63	1	6	1	6	166
Ceramics	Dent. 69	1	1	1	1	167
Exodontia & Oral Surgery	Dent. 64	1	2	1	2	166
Orthodontia	Ortho. 65	1	3	1	3	166
Radiology	Dent. 66	1	...	...	...	166
Peridontia & Preventive Dent.	Dent. 67	1	1	1	1	166
Dental Medicine	Dent. 68	1	...	1	...	166
Ethics & Economics	Dent. 70	...	...	1	...	167
Jurisprudence	Dent. 71	...	...	*3	...	167
Psychology	Psychol. 60	...	...	2	...	208
General Anaesthesia	Thera. 53	...	...	1	...	192

*A short course of three lectures.

I.—THE COMBINED COURSE LEADING TO THE DEGREES OF B.A. AND M.D.; AND B.A. AND D.D.S.

First Year:

1. English 1.
2. Mathematics 1.
3. A modern language.
4. Physics 11.

5 and 6. *Two of History 1, Zoology 1, Language not already chosen.

7. Physcial Education 1.

****Second Year:**

1. An option in Division A.
2. An option in Division B. (Phil. 2 recommended.)
3. Zoology 2.
4. Chemistry 1.
5. Botany 1.

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*Students in the combined course in Arts and Medicine, or Arts and Dentistry, who have not matriculated in German, are required to include German A or German A-1 in their work of the first year.

**Attention is drawn to possible necessary changes in the higher years.

Note: Students entering with Grade XII standing are required to take physical education in the second year.
years.

‡Third Year:

1. †Chemistry 41, 58.
2, 3 and 4. Two senior courses from Division A and one from Division B, or two senior courses from Division B and one from Division A.

Note: Students who have entered the second year of Combined Course from Grade XII are required to include Physics 11 in the work of the third year.

Fourth Year:

The subjects of Second Year Medicine or Dentistry.

The B.A. degree may be granted at the end of the fourth year.

The subjects of years V, VI, VII and VIII in the course in Arts combined with Medicine are identical with those of the years III, IV, V and VI in Medicine; and those of years V, VI and VII are identical with those of years III, IV and V in Dentistry.

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†Dental students are recommended to take Chemistry 41 and Medical students Chemistry 58.

‡Students must present second class standing in each of two courses in the third year.

II.—THE COMBINED COURSE LEADING TO THE DEGREES OF B.Sc. AND M.D.; AND B.Sc. AND D.D.S.

First Year:

1. English 1.
2. Mathematics 1.
3. Physics 11.
4. Chemistry 1.
5. A modern language.
6. *One of History 1; the languages; and the science not already chosen.
7. Physical Education 1.

****Second Year:**

1. An option in Division A.
2. An option in Division B. (Philosophy 2 recommended.)
3. Zoology 2.

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*Students in the combined course in Arts and Medicine, or Arts and Dentistry, who have not matriculated in German, are required to include German A or German A-1 in their first year.

**Attention is drawn to possible necessary changes in the higher years.

4. Chemistry 41.
5. Botany 1.

Note: Students entering with Grade XII standing are required to take physical education in the second year.

***Third Year:**

1. Chemistry 58.
2. †An option from Division C, Botany recommended.
3. A senior course from Division A or B.
4. ‡An option.

Note: Students who have entered the second year of the combined course from Grade XII are required to include Physics 11 in the work of the third year.
*Students must present second class standing in each of two courses in the third year.

†Students selecting Organic Chemistry from this division will be required to take Entomology 61 in the fourth year.
‡This option course to be related to one of the courses from Division C and to be officially approved.

SCHOOL OF NURSING

The University of Alberta School of Nursing offers two courses for the training of the professional nurse:

I.—DIPLOMA COURSE

A three-year course leading to the Diploma and the R.N. The preliminary educational requirement for this course is Grade XI of the Province of Alberta or its equivalent. The Diploma course has a probationary period of five months in the Hospital preceding final acceptance of the student as an undergraduate nurse.

II.—B.Sc. IN NURSING

A five-year course leading to the degree of B.Sc. in Nursing, includes three years University work under the Faculty of Medicine, and hospital training under the School of Nursing.

First Year:

English 1—3 hrs. lect.
Chemistry 1—3 hrs. lect., 3 hrs. lab.
Physics 1—3 hrs. lect., 2 hrs. lab.
Zoology 1—3 hrs. lect., 3 hrs. lab.
Two of: Mathematics, Languages, History, 3 hrs. lect. each.
Physical Education 1—2 hrs.
Three months probation in hospital at the close of the first University session.

Second Year:

A Junior Course from Division A or B—3 hrs. lect.
Anatomy 9 and 19—3 hrs. lect., 3 hrs. lab.
Physiology 41—3 hrs. lect., 3 hrs. lab.
Bacteriology 1—1 hr. lect., 3 hrs. lab. (half).
Philosophy 2—3 hrs. lect.
Household Economics—3 hrs. lect., 3 hrs. lab.

Third and Fourth Years:

Following the close of the second University year, 28 months are to be spent in hospital in training.

Fifth Year:

Training in administration, public health, etc., at the University.

Any deficiencies in training shall be made up at the close of the fifth year.

Physical Education

The undergraduate students in the School of Nursing are required to attend classes in Physical Education given under the supervision of the Department of Physical Education of the University.

FACULTY OF LAW

THE DEGREE OF LL.B.

The following courses are required of all students taking the degree of Bachelor of Laws. In addition to the study of prescribed texts, particular attention will be paid to the provisions of the Statute Law relating to each subject. The Statutes to be covered will be designated by the instructor in charge of each course. Cases other than those found in the prescribed texts may be assigned by the instructor in charge of any course.

Students beginning the study of Law at this University after the first day of October, 1926, must have successfully completed the work of two years in Arts or its equivalent at this University or at some other recognized institution. In special cases, students who have successfully completed the work of at least two years in any Faculty other than Arts, at this University or at any recognized institution, may, on application to the Faculty of Law, be granted permission to enter upon the study of Law in this University. Such permission may be made conditional upon the successful completion of certain non-legal courses to be designated in each case by the Faculty of Law.

LAW

All candidates for the degree of LL.B. are required to pass a *viva voce* examination at the end of their third year unless especially exempted by the Faculty. This examination is to be of a general character covering the work of the three years.

Students in each of the three years in Law are required to obtain an average of sixty per cent. on the whole of the work of their respective years. If such average is not obtained by any student in any year, such student will be required to repeat the whole of the work of that year before taking more advanced work. This rule, however, does not apply to students in the fourth year of the combined course in Arts and Law.

Students who have in view their ultimate call to the Alberta Bar are referred to section 35 of the Legal Profession Act (Revised Statutes of Alberta, 1922, chapter 206).

First Year

1. **Contracts 1.** 4 hrs.
   Kenny's *Cases on Contract;* Miles & Brierly: *Cases Illustrating Law of Contracts;* Selected Cases and Statutes.

2. **Torts 1.** 4 hrs.
   Radcliffe & Miles: *Cases Illustrating the Principles of the Law of Torts;* Kenny's *Cases in the Law of Torts;* Selected Cases and Statutes.

3. **Property 1.** Real 2 hrs.; Personal 2 hrs.
   Warren's *Cases on Property;* Williams' *Real Property;* Selected Cases and Statutes.

4. **Criminal Law 1.** 3 hrs.
   Criminal Code of Canada (omitting sections relating to procedure); Beale's *Cases on Criminal Law* (3rd ed.); Kenny's *Cases on Criminal Law.* Selected Cases.

5. **Legal History 1.** 1 hr.
   General Introductory Course.
   Maitland's *Constitutional History of England;* Holdsworth's *History of English Law,* Vol. I.

Summer reading will be assigned in April of each year as a supplement to the foregoing courses. Students entering upon their second year will be required to pass an examination upon such assigned reading at the commencement of their second year.

All students are required to take part in such moot cases as may be assigned to them by the Faculty during the year.

Second Year

*1. **Evidence 1.** 2 hrs.
Thayer's Cases; Assigned Statutes and Cases.

*2. **Canadian Constitutional Law.** 3 hrs.
Selected Cases and Statutes.

3. **Partnership and Agency.** 2 hrs.
Wambaugh's *Cases on Agency; The Factors Act;* Ames' *Cases on Partnerships; The Partnership Act;* Selected Cases and Statutes.
(Not given 1930-31.)

*4. **Sales.** 1 hr.
Sales of Goods Act; Falconbridge, *Cases on Sales;* Selected Cases and Statutes.

6. **Criminal Procedure** 1 hr.
Provisions of the Criminal Code relating to Procedure; Selected Cases and Selected Rules of Court.
(Not given 1930-31.)

7. **Practice 1.** 1 hr.

8. **Real Property 2.** 1 hr.
The Land Titles Act; Selected Cases.

9. **Equity 1.** 2 hrs.
Scott's *Cases on Trusts;* Smith's *Cases on Trusts; The Trustee's Act;* Selected Cases and Statutes.

Summer reading will be assigned in April of each year as a supplement to the foregoing courses. Students entering upon their third year will be required to pass an examination upon such assigned reading at the commencement of their third year.

All second year students are required to argue such moot cases as may be assigned to them by the Faculty during the year.

Third Year

*1. **Company and Municipal Law.** 3 hrs.
Assigned Statutes and Cases.
(Not given 1930-31.)

*2. **Bills and Notes.** 2 hrs.
Ames' *Cases on Bills and Notes; Russell on Bills* (2nd ed.); 8 Corpus Juris 1-1108; *Bills of Exchange Act.*

*3. **Jurisprudence and Comparative Law.** 3 hrs.
This course is divided into two parts. The first part will be devoted to an analysis of fundamental legal concepts. The second part is an introduction to the study of Comparative Law. The principles and historical development of the Civil Law and of some modern codes derived therefrom will be briefly studied. Holland's *Jurisprudence;* Pound's *Readings on Roman Law* (2nd ed.) ; Girard's *Manuel Elémentaire de Droit Romain.*

4. **Legal History 2.** 2 hrs.
Holdsworth's *History of English Law, Vol. III;* Selected Readings.

*5. **Private International Law.** 1 hr.
Falconbridge's *Cases on Conflicts;* Dicey's *Conflict of Laws* (4th ed.) ; 12 Corpus Juris, 427-486.
(Not given 1930-31.)

6. **Practice 2.** 1 hr.

7. **Real Property 3.** 1 hr.

8. **Equity 2.** 1 hr.

9. **Evidence 2.** 1 hr.
Thayer's *Cases on Evidence;* Selected Cases and Statutes.

10. **Professional Etiquette.** 1 hr.
Office Management, etc.

*11. **Torts. 2.** 1 hr.
Select Topics in the Law of Torts.
(Not given 1930-31.)

12. **Informal Discussion of Recent Cases and Legislation.** 1 hr.

13. **Bankruptcy.** 1 hr. first half.

14. **Wills and Administration.** 1 hr. sec. half.
Mathews on *Wills; Wills Act;* Gray's *Cases on Property* (Vol. IV.), 2nd ed.
Assigned Cases and Statutes.

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*For economy in lecture work, the Faculty may alternate courses of the second year, marked * with courses of third year marked *, the two years taking the lectures together in the courses so alternated.

A short optional course in Accountancy is provided for Law students. (See Legal Accounting 70, p. 136.) Students are strongly advised to take this course. No extra fee is charged.

***15. Domestic Relations.** 1 hr.

Domestic Relations Act; Assigned Cases and Statutes. (Not given 1930-31.)

***16. Suretyship.** 1 hr.

Ames' *Cases on Suretyship;* 32 Corpus Juris, 1-307.

DEGREE WITH DISTINCTION

Students who have given evidence of a high standard of scholarship during their first year of law work may be permitted, with the approval of the Faculty, to take any two of the following subjects in addition to the work ordinarily required in the second and third years in Law.

(a) Legal Psychology;
(b) Corporation Finance (P.E. 69);
(c) Political Science (P.E. 63);
(d) Public International Law;
(e) Roman Law.

Students who have been permitted by the Faculty of Law to take courses leading to the Degree of Bachelor of Laws with Distinction may, on special application to the Faculty of Law, be permitted to substitute one or more courses in lieu of one or more of the additional Distinction subjects enumerated above.

If the work of such students in the two extra subjects so taken and in the work of the second and third years in Law indicates a high standard of scholarship, such students may, with the approval of the Faculty, be granted the degree of Bachelor of Laws with distinction.

COMBINED COURSE LEADING TO THE DEGREES OF B.A. AND LL.B.

First Year:

1. English 1.
2. History 1.
3. Mathematics 1.
*4. Latin 1-3.
5. and 6. Any two of the following:
   French 1.
   German A-1, 2.
   Greek A-1, 2—4.
   Chemistry 1.

COMBINED COURSE

Physics 1.
Zoology 1.
7. Physical Education 1.

Second Year:

1. English 2.
2. History 3.
3. Political Economy 1.
**4. One course from Division C.
5. One option.

Note: Students entering with Grade XII standing are required to take physical education in the second year.

Third Year:

1. History 57 or 58.
2. Political Economy.
3. and 4. Two Senior Courses from Divisions A and B.
5. One option.

Fourth Year:

1. History 57 or 58 together with
2. Subjects of First Year Law.

The degree of B.A. may be granted at the end of the fourth year.

Fifth Year:

Subjects of Second Year Law.

Sixth Year:

Subjects of Third Year Law.

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*Students entering the second year of the Combined Course in Arts and Law from Grade XII who have not Grade XII standing in Latin must take the Latin prescribed for students of the first year.

**Students entering with Grade XII standing must select laboratory science of the second year.

UNIVERSITY OF ALBERTA

FACULTY OF AGRICULTURE

In the Faculty of Agriculture courses are offered leading to the degree of B.Sc. and of B.H.Ec.

THE DEGREE OF B.Sc. IN AGRICULTURE

JUNIOR COURSES—FIRST YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
English	Eng. 1	3	...	3	...	121
Mathematics	Math. 1	3	...	3	...	187
Chemistry	Chem. 1	3	3	3	3	149
Botany	Bot. 1	3	3	3	3	147
Physical Education	Phys. Ed.	...	2	...	2	230
I. Animal Husbandry	A.H. 1	1	3	1	3	141
Field Crops	F.C. 1	1	3	1	3	175
Agric. Engineering	A.E. 1	1	3	1	3	136
Veterinary Science	Vet. Sci. 1	1	...	1	...	221
II. Animal Husbandry	A.H. 2 & 3	1	3	1	3	142
Entomology	Ent. 1	2	...	2	...	174
Bacteriology	Bact. 2	1	3	1	3	144
Political Economy	Pol. Ec. 70	2	...	2	...	218

I.—For High School students only.

II.—For Schools of Agriculture students only.

Note: Only the First Year of the Revised Course is printed this year. All four years will be printed in time for registration in the fall of 1931.

JUNIOR COURSES—SECOND YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Chemistry	Chem. 1	3	3	3	3	149
Animal Husbandry	A.H. 2 & 3	2	2	2	2	142
Mathematics	Math. 1	3	...	3	...	187
English	Eng. 1	3	...	3	...	171
Entomology	Ent. 1	2	...	2	...	174
History of Agriculture	Hist. of Ag. 1	1	...	1	...	182
Agric. Engineering	A.E. 2	3 lec.-lab.		3 lec.-lab.		136
Botany	Bot. 1	3	3	3	3	147

Under advice students may substitute Math. 7 for Math. 1.

Note: Students entering the second year from the Schools of Agriculture are required to take physical education.

AGRICULTURE

SENIOR COURSES—THIRD YEAR

25 to 30 hours to be selected, of which those marked with an asterisk must be taken.

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
*Soils	Soils 51 & 52	2	3	2	3	219
*Field Crops	F.C. 50	3	3	3	3	175
*Chemistry	Chem. 5	1	3	...	...	149
*Zoology	Zool. 4	...	...	3	3	225
*Political Economy	Pol. Ec. 70	2	...	2	...	218
*Public Speaking	P.S. 51	2	...	2	...	.....
English	Eng. 3	1	...	1	...	171
Animal Husbandry	A.H. 61	...	2	...	2	142

Students who choose Chem. 58 as an option will be exempted from taking Chemistry 5.

Any elective course shown in Fourth Year lists may be taken in Third Year if time table will permit.

SENIOR COURSES—FOURTH YEAR

24 to 28 hours to be selected from the following, of which not less than 6 hours must be selected from Group A subjects.

Group A

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
*Agric. Engineering	A.E. 51	1	3	1	3	136
Agric. Engineering	A.E. 53	1	3	1	3	136
Animal Husbandry	A.H. 65	3	...	...	...	142
Animal Husbandry	A.H. 66	...	...	1	2	142
Animal Husbandry	A.H. 67	...	3	...	3	142
Animal Husbandry	A.H. 68	...	...	3	...	143
Animal Husbandry	A.H. 71	2	...	2	...	143
Field Crops	F.C. 51	3	...	3	3	175
Field Crops	F.C. 54	3 lec.-lab.		3 lec.-lab.		176
Field Crops	F.C. 61	3	...	...	...	176
Field Crops	F.C. 62	...	...	3	...	176
Soils	Soils 53	2	3	...	...	220
Soils	Soils 54	...	...	2	3	220
Soils	Soils 55	...	...	2	...	220
Horticulture	Hort. 51	2	2	2	2	183
Horticulture	Hort. 52	2	2	2	2	183
Dairying	Dai. 53	3 lec. lab.		...	...	164
Dairying	Dai. 54	...	...	3 lec.-lab.		164
History of Agriculture	Hist. of Ag. 51	1	...	1	...	182

*Open only to students who have not taken the first year course in Agriculture in this University.

Group B

SENIOR COURSES—FOURTH YEAR

SUBJECTS	Course No.	First Half Lect.	First Half Lab.	Sec. Half Lect.	Sec. Half Lab.	Pge.
Agric. Bacteriology	Bact. 2	1	3	...	...	144
	Bact. 52	...	...	1	3	144
Entomology	Ent. 61	3	3	3	3	174
	Ent. 62	6 lec.-lab.		6 lec.-lab.		175
	Ent. 63	6 lec.-lab.		6 lec.-lab.		175
Veterinary Science	Vet. Sci. 51	1	...	1	...	224
Botany	Bot. 4	...	...	1	2	148
	Bot. 52	3	3	3	3	148
Elements of Irrigation & Survey School	C.E. 75	2	...	2	...	156
	C.E. 6	Field work—4 weeks in spring				153
English	Eng. 54	1	...	1	...	172
Mathematics	Math. 7	3	...	3	...	188
	Math. 42	3	3	3	3	188
	Math. 61	3	...	3	...	189
Geology	Geol. 1	3	3	3	3	177
Chemistry	Chem. 4	3	...	3	...	149
	Chem. 41, 42, 57 or 58	3	3	3	3	150 151
Biochemistry	Biochem. 61	3	3	3	3	145
Physics	Phys. 1, 3, 11, 42, 46, or 48	3	2	3	2	212 213
Political Economy	Pol. Ec. 72	2	...	2	...	218
	Pol. Ec. 64	3	...	3	...	217
French or German	Fr. 1 or	3	...	3	...	196
	Ger. A-1	3	...	3	...	199

COMBINED COURSE IN ARTS AND AGRICULTURE

Frist Year:

As for B.A. or B.Sc. in Arts.

Note that in first year B.A. Chemistry must be chosen.

Second Year:

1. One course from Division A.
2. One course from Division B.
3. 4. Two courses from Division C (Bot. 1 and Geology 1).
5. An option. (Students intending to select Mathematics or Physics in the Fourth Year should take Math. 7.)
6. Physical Education 2.

Third Year:

1. 2. Two courses from Division A.
3. One course from Division B.

4. One course from Division C (Entomology 61).

or

1. One course from Division A.
2. 3. Two courses from Division B.
4. One course from Division C (Entomology 61).

Fourth Year:

1 and 2. Two courses from Divisions A and B.
3. One course from Division C (Bot. 52, Chem. 41 or 52), Physics 48, or Mathematics 7).
4. History of Agriculture 1.
5. Animal Husbandry 1.
6. Field Crops 1.

The degree of B.A. may be granted on successful completion of the four years outlined above.

Fifth Year:

As for the Third Year in Agriculture.

Sixth Year:

As for the Fourth Year in Agriculture.

Note: Re Fifth and Sixth years: in case the student has taken any of these courses in a preceding year he may substitute an equivalent approved course.

With consent of the department the student may substitute a junior course for a senior one.

THE DEGREE OF B.H.Ec.

For those entering from the Provincial Schools of Agriculture.

For Matriculation requirements see page 34.

Junior Courses.

First Year:

1. English 1.
2. History 1.
3. Mathematics 1.
4. Chemistry 1.
5. Physics 1.
6. Household Economics 31.
7. Physical Education 1.

Second Year:

1. One course from Divisions A and B.
2. Political Economy 1.
3. Chemistry 41.

4. Zoology 1.
5. Bacteriology 2 (1st term).
6. Household Economics 32, 33.

Senior Courses.

Third Year:

1. One course from Divisions A and B.
2. Biochemistry 61.
3. Chemistry 59.
4. Hygiene and Sanitation 51.
5. Household Economics 56, 57, 58, 59.

SCHOOL OF PHARMACY

The University offers two courses in Pharmacy, one covering the requirements for registration as Licentiate of the Alberta Pharmaceutical Association, the other leading to the degree of B.Sc. The former covers two years and the latter four years of academic work.

The Licentiate course as outlined below is a minimum prerequisite to acquiring membership in the Alberta Pharmaceutical Association. The first year of this course may be taken by matriculants at any time, but application for registration in the second year will not be accepted until the apprenticeship term of three years, prescribed by the Association, has been completed by the candidate.

In lieu of the required apprenticeship service, candidates for registration as members of the Association who hold the B.Sc. degree in Pharmacy may offer two years' practical experience in the employ of a duly qualified pharmacist, provided that such service has been performed after their apprenticeship has been duly registered by the Registrar of the Alberta Pharmaceutical Association. At least twelve months of this apprenticeship must be completed before the candidate enters upon the third year of the B.Sc. course.

I.—THE LICENTIATE COURSE

FIRST YEAR

SUBJECTS	Course No.	Lect. Hrs.	Lab. Hrs.	Pge.
Accountancy	Accountancy 1	3	...	135
Botany	Botany 3	2	3	147
Chemistry	Chemistry 2	3	6	149
**Latin	Latin 36	1**	...	159
*Mathematics	Mathematics 1	3*	...	187
Physics	Physics 11	3	2	212
Physical Education	Physical Educ.	...	2	230

*First half session.
**Second half session.

SECOND YEAR

SUBJECTS	Course No.	Lect. Hrs.	Lab. Hrs.	Pge.
Chemistry	Chem. 3	3	3*	143
Materia Medica	M.M. 1	4	...	183
Pharmacy	Pharm. 1, 2 & 4	4	6	200
Physiology (Biochemistry)	Biochem. 2	1*	2*	140
Toxicology	Toxic. 1	1*	...	219

*Second half session.

II.—THE DEGREE OF B.Sc. IN PHARMACY

For the outline of the course leading to this degree, see the Faculty of Arts and Sciences, page 86.

HIGHER DEGREES

Candidates for higher degrees are under the supervision of the Committee on Graduate Studies.

The Degree of M.A. and M.Sc.

1. A candidate for the Degree of Master of Arts or Master of Science must possess a Bachelor's degree from this University or be admited *ad eundem gradum*, and before presenting himself for the higher degree must have held the Bachelor's degree for at least one academic year.

2. An applicant for a graduate degree shall be admitted to candidacy for the degree in question only after any preliminary requirements have been performed to the satisfaction of the department or departments concerned and only after the applicant's complete programme has been approved by the Committee. Further, admission to candidacy shall be made a matter of formal record by the Committee on Graduate Studies.

3. The Master's degree may be attained by following either of two methods: (a) the pursuit of a prescribed course of study or (b) the carrying out of an investigation. Regulations governing these two methods follow:

(a) *the pursuit of a prescribed course of study.*

(1) The candidate for the Master's degree must elect a major subject.

(2) The candidate shall arrange his entire course leading to the degree with the members of the department in which he chooses his major subject and the candidate, having secured the department's approval, shall then submit his programme to the Committee on Graduate Studies for ratification.

(3) If the candidate chooses also a minor subject, or if in the opinion of the department a minor subject should be added, representatives of the department of the minor subject shall act with the department of the major subject in arranging the candidate's course.

(4) The programme so arranged and recommended by the department or departments concerned for approval to the Committee on Graduate Studies shall consist of a substantial body of work covering in no case less than one academic year. With respect to honours graduates the equivalent of four graduate courses and a thesis, and with respect to pass graduates six graduate courses and a thesis, will constitute the working basis of this recommendation; each case, however, shall be judged upon its merits.

(5) In addition to completing satisfactorily the prescribed graduate courses, the candidate must prepare, under the direction of the members of the department of the major subject, a thesis, study, investigation, or piece of minor research. The granting of the degree shall be subject to the satisfactory completion of this requirement.

(6) An oral examination may be required of any candidate for the Master's degree at the discretion of the department in which the major part of the work has been done.

(b) *the carrying out of an investigation.* A candidate who chooses to carry out a piece of original investigation shall submit on or before April 1st of the year in which the degree is to be taken, a formal report embodying the results of the investigation, or submit a dissertation indicative of acquaintance with the methods of research, which shall be printed or typewritten, in standard format, and which shall be deposited in the University Library. During the period of the student's candidacy, no use of the material or results of the investigation shall be made without the formal sanction of the Committee on Graduate Studies. In all cases the subject of the investigation must receive the written approval of the head of

the department concerned before it is submitted to the Committee on Graduate Studies as required in Section 3, and the report when completed shall be accepted only on the recommendation in writing of the department concerned. Every candidate will be required, in addition, to pass an examination, written or oral, on the subject within which his investigation lies. Such examination shall be conducted under the supervision of the Committee on Graduate Studeis.

3. A candidate who is proceeding to the degree by method—

(a) must submit the course of study which he proposes to follow to the Committee on Graduate Studies for its approval on or before the first day of November of the year in which he undertakes his work for the degree; or

(b) must submit the subject of the investigation he proposes to carry out, to the Committee on Graduate Studies, for its approval on or before the first day of November preceding the spring in which the degree is to be taken. Candidates are strongly recommended, however, to submit their applications to the Committee at the close of the preceding session. This is especially advisable for students wishing to work in scientific departments.

4. In respect of courses taken with a view to the fulfilment of the regulations for the Master's degree, the pass mark shall be 65%, and no supplemental examinations shall be permitted. The mark of 65% applies also to all essays required in connection with courses for the Master's degree.

The Degree of B.Educ.

The degree of Bachelor of Education is awarded as a graduate degree under the Faculty of Arts and Sciences. The course is designed to cover two and one-half full years of graduate work, one of which must be taken in residence in this University.

Honour students, however, who, in their undergraduate course, have taken the prerequisites for the School of Education may complete the degree in two years.

Admission

Graduates of an approved university or college, holding a bachelor's degree, may be enrolled as candidates, subject to the approval of the Committee on Graduate Studies.

Graduates of an approved university or college, who have pursued graduate studies in any recognized institution in any of the subjects indicated in the appended programme of studies, may receive credit

for such work, provided, however, that credit shall not be given for more than the equivalent of the work of one academic year, and that the condition requiring resident study in this University for at least one year after graduation is complied with.

In order to be recommended for the degree of Bachelor of Education the candidate must, in accordance with the programme set out below, (1) complete the programme of studies; (2) submit a thesis.

The Programme of Studies is as follows:

1. **Philosophy 108.**
   History of Philosophical and Scientific Thought (Advanced Course).

2. **Psychology 51.**
   General and Experimental Psychology.

3. **Psychology 52.**
   Social Psychology and Social Anthropology.

4. **Psychology 55.**
   Educational Psychology.

5. **Mathematics 42.**
   Statistics.

6. **Psychology 104.**
   General and Experimental Psychology (Advanced Course).

7. **Psychology 105.**
   Educational Psychology (Advanced Course).

8. **Education 54.**
   History and Philosophy of Education (Advanced Course).

9. **Education 101.**
   History of Educational Administration.

10. **An option to be selected in consultation with the head of the Department of Philosophy.**

Thesis

(a) The subject of the thesis shall be arranged for not later than the date on which the student enrols as a second year graduate student. Students should consult with the head of the Department

of Philosophy and with the professor under whom they will do their special research work.

(b) The subject of the thesis shall be submitted to the Committee on Graduate Studies not later than November first of the academic year in which the student expects to graduate.

Remarks

(a) Students who have completed any six of the full session courses outlined in the programme of studies above may be recommended for the degree of Master of Arts provided that the other conditions for the awarding of this degree have been fulfilled.

Honours students who, during their undergraduate course, have completed the prerequisites required for the School of Education may complete the degree by taking four full courses.

(b) Students who have completed any of the courses in the abovementioned programme of studies as parts of their undergraduate work, may, if their undergraduate standing in these subjects has been of the grade required for graduate work, be allowed to select cognate subjects, or be allotted research work in lieu of classes. Such research work would be in addition to that ordinarily to be undertaken in the preparation of the thesis.

(c) In respect of courses taken for the degree of B.Educ, the pass mark shall be 65%, and no supplemental examinations shall be permitted.

The Degree of B.D.

By an arrangement with the affiliated colleges, the degree of B.D. is offered by the University to graduates in the Faculty of Arts and Sciences who follow a course of study prescribed by the affiliated colleges and approved by the University Senate. For information regarding this course application may be made to the Registrar. The provisions of section 4 under "The Degrees of M.A. and M.Sc." apply also to the degree of B.D.

The Degree of D.Sc.

The degree of Doctor of Science may be conferred by the University on persons who shall be deemed by the Senate, after report from the General Faculty Council, to have distinguished themselves by special research or learning in the domain of Science, subject to the following regulations:

A candidate for the degree of Doctor of Science must have received the degree of Master of Science or a degree equivalent.

A candidate must be a Bachelor of at least seven years standing before the degree can be granted.

The application must be based wholly on original work of merit carried out individually by the candidate or in co-operation with others. He shall, in the latter case, make a written statement indicating precisely the share he has personally taken in the work.

Application must be made in writing to the Committee on Graduate Studies and should be accompanied by four reprints of all papers submitted by the candidate. This application must be submitted before November 1st of the academic year in which it is proposed to take the degree.

AD EUNDEM DEGREES

Applicants for *ad eundem degrees* should communicate with the Registrar. In each case the application should be accompanied by diplomas and a calendar of the institution which has conferred the degree.

Details of Courses by Departments

The University reserves the right to modify or withdraw for the Session any of the Courses here outlined.

DEPARTMENT OF ACCOUNTANCY

1. Elementary Accounting. 3 hrs.
Single and Double Entry Bookkeeping Principles; Types and forms of books; the form, nature, and classification of accounts; instruction in opening and closing books; preparation of Trading and Profit and Loss accounts and Balance Sheets.

10. Accounting. Evening Classes.
Theory and practice for Intermediate candidates, Institute of Chartered Accountants of Alberta.
(Not offered 1930-31.)

51. Fundamentals of Municipal Accounting. 3 hrs. sec. half.
Principles of Single and Double Entry Bookkeeping; Nature and Classification of accounts; preparation of Financial Statements; Municipal Accounts.

52. Continuation of Accountancy 1. 3 hrs.
Preparation of Manufacturing, Trading, Profit and Loss Accounts; Balance Sheets, Receipts and Disbursements; Revenue and Expenditure; Partnership and Consignment Accounts; Corporation Accounts, including general knowledge of Capital, Debentures, and Bonds, etc.; Elementary Cost Accounts; Systems.

53. Continuation of Accountancy 52. 3 hrs.
Special attention to Depreciation, Depletion and Obsolescence methods; Reserves, Reserve Funds and Sinking Funds; Consolidations, Reconstructions, and Amalgamations; Bankruptcy, Realization and Liquidation and Statements of Affairs; Trustee and Executorship, and Municipal Accounts; Cost Accounts; Income tax; Systems.

55. Business Administration. 3 hrs. sec. half.
For senior students in commerce.
Business policy and Organization as applied to Marketing, Production, Personnel and Finance.

60. Accounting. Evening Classes.
Advanced course for Final candidates, Institute of Chartered Accountants of Alberta.
(Not offered 1930-31.)

70. Legal Accounting. 1 hr. sec. half.
An optional course in Accounting open to students in Law.

DEPARTMENT OF AGRICULTURAL ENGINEERING

Junior Courses.

1. Agricultural Engineering. 1 hr. lect., 3 hrs. lab.
The planning of farm buildings and farmsteads. Each student will be allowed to choose the types of buildings he wishes to design, and also make the farmstead layout apply to his own requirements. A brief study of materials of construction and the strength of materials, concrete work; applications of heating, ventilation, lighting, water supply and sewage disposal problems to agriculture. At the beginning of the course sufficient work will be given in the use of drawing instruments and in elementary surveying to enable students to take field notes and make a farm plan from them.
Text-book: *Farm Buildings*, Foster and Carter.

2. Agricultural Engineering. 3 hrs. lect.-lab.
A practical study of all lines of tillage, seeding, fertilizing, harvesting and threshing machinery. Draft of plows and other implements. In the laboratory an effort will be made to furnish students with all the different types of machines with which they must deal on the average Alberta farm. An opportunity will be given to study the machines with the aid of a laboratory manual. Each student will require a laboratory note-book.
Text-book: *Farm Machinery and Equipment*, Smith.

Senior Courses.

51. Agricultural Engineering.
This course is similar to A.E. 1, and may be elected. (See p. 125.)

53. Agricultural Engineering. 1 hr. lect., 3 hrs. lab.
A study of the sources and applications of mechanical power on the farm. The demand for labor-saving machinery has turned the attention of farmers to power equipment of various kinds.

The object of the course is to enable the students to become familiar more especially with the fundamental principles of the internal combustion engine, namely, valve timing, carburetion, lubrication, ignition and sufficient practice in operation to enable them to locate and correct the most common troubles. The practical work will be along similar lines to those followed in the Farm Machinery course.

Text-book: Dyke's *Automobile and Gasoline Engine Encyclopedia.*

DEPARTMENT OF ANATOMY

Junior Courses.

4. Gross Anatomy of Body-Wall and Thorax.
2 hrs. lect., 12 hrs. lab. first half.

This is the first course in Gross Anatomy and includes the osteology of the parts studied.

Text-books: *Text-book of Anatomy*, Cunningham, Gray (English edition); *Manual of Practical Anatomy*, Cunningham; *BNA Terminology*, Barker; *BNA Regional and Systematic*, Emmel; *Dictionary*, Gould, Stedman, or Dorland; *Atlas* (for reference only), Toldt, Sobotta and McMurrich, Spalteholtz.

5. Gross Anatomy of Abdomen and Pelvis.
2 hrs. lect., 9 hrs. lab. sec. half.

Text-books as for Anatomy 4.

2. Gross Anatomy of Extremities.

Continuing the same hours as in Course 5 when the latter has been finished.

10. Histology. 3 hrs. lect., 4 hrs. lab. first half.

The cell, the elementary tissues.

Text-books: *Histology*, Bailey, Jordan, Piersol, Bremer and Lewis, Lewis and Stohr.

12. Splanchnology. 3 hrs. lect., 7 hrs. lab. sec. half.

Continuing Anatomy 10 and preceding Anatomy 14.

The minute anatomy of the organs of the body.

Text-books as for Anatomy 10.

14. Embryology.

Combining with Anatomy 12.

Mammalian embryology.

Text-book of Embryology, Prentiss & Arey; *Development of the Human Body*, McMurrich.

Senior Courses.

53. Gross Anatomy of Head and Neck.
1 hr. lect., 9 hrs. lab. first half.
1 hr. lect., 5 hrs. lab. sec. half.

Text-books as for Anatomy 4.

54. Applied Anatomy. 1 hr. lect., 3 hrs. lab.

A review of the work of the second year supplemented by the study of frozen sections, and having regard to medical and surgical application.

Text-books as for Anatomy 4, and *A Manual of Surgical Anatomy*, Whittaker, or Beesley & Johnston; *A Cross Section Anatomy*, Eycleshymer and Shoemaker; *Surface Markings*, Rawlings; *Elements of Surface Anatomy*, Thompson.

55. Surgical Anatomy. 2 hrs. lect.

The anatomy of clinical cases, with demonstrations of dissections and moist specimens, and of anatomical abnormalities in the living.

56. Surgical Anatomy. 1 hr. lect.

A continuation of Course 55.

60. Neurology. 2 hrs. lect., 4 hrs. lab. sec. half.

Gross and minute structures of the central nervous system and organs of the special senses.

Text-books as for Anatomy 4, and Ranson, *Anatomy of the Nervous System;* Villiger, *Brain and Spinal Cord;* Herrick, *Introduction to Neurology.*

For Dental Students.

6. Odontology. 1 hr. lect., 4 hrs. lab.

Morphology of human teeth, occlusion and arrangement, deciduous teeth.

Text-book: *Dental Anatomy*, Black.

8. Comparative Odontology.

Combining with Anatomy 6 in the second half.

Text-book: *Comparative Dental Anatomy*, Dewey-Thompson.

For reference: *Origin and Evolution of Human Dentition*, Gregory.

11. Histology. 3 hrs. lect., 4 hrs. lab. first half.

Similar to Anatomy 10.

Text-books as for Anatomy 10.

13. Splanchnology. 3 hrs. lect. 7 hrs. lab. sec. half.
A course similar to Anatomy 12, but giving more attention to oral structures and their development, and less attention to the reproductive system.
Text-books as for Anatomy 10.

15. Embryology.
Combining with Anatomy 13.
A course similar to Anatomy 14, and using the same texts.

20. Gross Anatomy of Thorax. 2 hrs. lect., 2 hrs. lab. first half.
The gross anatomy includes osteology.
Text-books: *Text-book of Anatomy*, Cunningham, Gray (English edition), Morris or Piersol; *Practical Anatomy*, Walmsley, Pt. 2; *BNA Terminology*, Barker; *Medical Dictionary*, Stedman, Dorland or Gould.

22. Gross Anatomy of Abdomen and Pelvis.
1 hr. lect., 4 hrs. lab. sec. half.
Text-books as for Anatomy 20.

23. Gross Anatomy of Head and Neck. 1 hr. lect., 4 hrs. lab.
Text-books as for Anatomy 20, and Cunningham, Vol. 3.

For Students of Nursing.

9. Minute Anatomy for Degree in Nursing. 3 hrs. lect., 2 hrs. lab.
The tissues and organs; the development of the human embryo.

19. Gross Anatomy for Degree in Nursing. 2 hrs. lect., 2 hrs. lab.
Systematic anatomy.

31. Anatomy for Diploma in Nursing. 3 hrs. lect. and lab., one half.
Elements of histology, splanchnology and systematic anatomy.
Text-book; *Anatomy and Physiology for Nurses*, Williams.

DEPARTMENT OF ARCHITECTURE

Junior Courses.

2. Architectural Drawing. 3 hrs. lab.
Applied to historical examples.
Text-book: Pierre Esquié, *Cinq Ordres d'Architecture.*

3. Architectural Design. 6 hrs. first half, 9 hrs. sec. half.
The application of traditional forms to simple problems; subjects involving the use of the Classical Orders and of typical methods of construction.

4. History of Architecture. 2 hrs.

Ancient architecture. General review of Egyptian and Assyrian architecture and detailed study of Greek, Roman and Byzantine architecture.

Text-book: Anderson & Spiers, *Greek and Roman Architecture*, revised and re-written by W. B. Dinsmoor and Thomas Ashby.

5. Building Construction. 6 hrs. lab.

Methods of employing, assembling and framing materials in accordance with the various characteristics and the purposes for which each is suited. The principal elements of modern building work, such as walls, floors, roofs, doors, windows, etc., treated from the point of view of practical and customary construction. Standard methods of construction.

Text-book: *Mitchell's Building Construction, Junior Course.*

6. Decorative Arts. 4 hrs. lab.

Study of the principles and elements of the decoration employed in the architecture and related arts of the periods dealt with in the course in History of Architecture.

Senior Courses.

51. Architectural Drawing. 3 hrs. lab.

Rendering in line and wash; development in light and shade; perspective drawing.

52. Architectural Design. 1 hr. lect., 9 hrs. lab.

Problems in Planning and in the composition of elevations.

53. Architectural Design. 1 hr. lect., 15 hrs. lab.

Planning and groupings of buildings and surroundings.

54. History of Architecture. 2 hrs.

Mediaeval architecture. Romanesque and Gothic architecture throughout Europe. The Perpendicular and Tudor styles in England. Study of the principles of stone construction in arches and vaults.

Text-books: Sir T. G. Jackson, *Byzantine and Romanesque Architecture, Gothic Architecture.*

55. History of Architecture. 2 hrs.

Renaissance and recent. The effects of the Renaissance movement as illustrated by architecture. The various characters exhibited by Renaissance architecture throughout Europe at

various periods. The relation of modern architecture to past styles.

Text-books: W. L. Anderson, *Renaissance Architecture in Italy;* W. H. Ward, *Renaissance Architecture in France;* R. Blomfield, *English Renaissance Architecture.*

56. Decorative Arts. 3 hrs. lab.

Decoration as employed in various materials used in architecture, metal, plaster, terra cotta, etc.

57. Decorative Arts. 1 hr. lect., 3 hrs. lab.

An advanced course in decorative design.

58. Specifications. 1 hr. first half.

The preparation of detailed description of architectural works with a view to obtaining prices and carrying out contracts.

60. Ventilation and Heating. 1 hr. first half.

The scientific bases on which the circulation and warming of air in buildings must be provided for. The principal means taken to meet these requirements.

Text-book: R. G. Carpenter, *Heating and Ventilating Buildings.*

61. Building Construction. **6 hrs. lab.**

Advanced stage of Building Construction (Architecture 5), including the more essentially modern methods of construction; re-inforced concrete, etc.

Text-book: Mitchell's *Building Construction, Advanced Course.*

62. Architecture. 3 hrs. lect.

Optional course for students in 3rd and 4th years of Arts course. The purpose of this course is to provide a basis for the intelligent appreciation of architectural design as illustrated in historical monuments and in present day experience.

Text-book: H. H. Statham, *A Short Critical History of Architecture.*

DEPARTMENT OF ANIMAL HUSBANDRY

Junior Courses.

1. Types and Market Classes of Beef Cattle, Dairy Cattle, Horses, Sheep and Swine. 1 hr. lect., 3 hrs. lab.

A consideration of the various types and market classes with special reference to present day market requirements. A study of the live animal and in the case of beef cattle, sheep and

swine, a study of the carcass with a view to demonstrating the relationship existing between form and function.
Text-books: *Types and Market Classes of Livestock*, Vaughan; *Judging Farm Animals*, Plumb.

2. **Breed Studies of Beef Cattle, Dairy Cattle, Horses, Sheep and Swine.** 2 hrs. lect., 2 hrs. lab. first half.
A study of the origin, characteristics, and adaptability of the breeds. Judging type and representatives of different breeds according to their official standards.
Text-book: *Types and Breeds of Farm Animals*, Plumb.

3. **Feeding and Management.** 2 hrs. lect., 2 hrs. lab., sec. half.
A brief survey of the field of animal nutrition, together with a study of the various practical problems met with in the feeding and general care of horses, cattle, sheep and swine.

Senior Courses.

61. **Judging and Fitting Livestock.** 2 hrs. lab.
A course offered to third year students for the purpose of giving further practice in judging breeding and market classes of horses, cattle, sheep and swine. This will be supplemented with laboratory practice in preparing the various classes of livestock for exhibition and sale, together with a consideration of management methods and stable equipment.

65. **Animal Breeding.** 3 hrs. lect., first half.
Application of the principles of genetics to the improvement of farm animals. A study of reproduction, selection and the approved methods of practice.
Text-books: *Genetics in Relation to Agriculture*, Babcock and Clausen; or *Principles of Breeding*, Davenport.

66. **Herd Book Studies and Breed Development.**
1 hr. lect., 2 hrs. lab. sec. half.
A review of the work of the outstanding improvers of the various breeds of livestock, together with a consideration of the leading sires and blood lines with which these names are identified. A study of the requirements for registration and transfer in the various breeds, as well as for official records in dairy cattle. Practical work in extending pedigrees with the use of herd, flock and stud books.

67. **Advanced Judging.** 3 hrs. lab.
Advanced work in judging horses, cattle, sheep and swine.

68. Animal Nutrition. 3 hrs. lect., sec. half.

A study of the principles of nutrition, feeding standards, balanced rations, together with a consideration of the various feeding stuffs, with a practical application of their uses in feeding horses, cattle, sheep and swine.

71. Economics of Livestock Production. 2 hrs. lect.

Review and class discussion of special problems related to animal production. The results of livestock experiments conducted by leading stations will be analysed with particular reference to the various factors concerned with reducing production costs. A study will be made of experimental methods in general and provision made for laboratory practice in planning experiments, keeping records and interpreting results. Livestock marketing in its relation to production will receive consideration. This will include a discussion of market organization and a study of local and world markets as they affect the markets for and the marketing of Canadian livestock and animal products.

Graduate Courses.

Advanced work leading to the Master's degree is offered to students whose previous training and academic standing is sufficiently high to justify further studies in Animal Husbandry. These courses will include special work both in lectures and research in the Department of Animal Husbandry, together with related courses in other departments of the University.

101. Advanced Animal Production and Nutrition.

A review of the basic principles of animal nutrition together with a consideration of the fundamental experimental work in Animal Husbandry conducted at leading experiment stations in Canada and the United States.

111. Experimental Methods.

A study of methods of experimentation and research in Animal Husbandry and consideration of the main problems in this field worthy of experimentation. Laboratory work in planning and executing experiments, in the keeping of records and interpretation of experimental results.

UNIVERSITY OF ALBERTA

DEPARTMENT OF BACTERIOLOGY AND HYGIENE

Bacteriology

1. **Elementary Bacteriology.** 1 hr. lect., 3 hrs. lab. first half.
Demonstrations in elementary bacteriology. Practical laboratory exercises, i.e., making of media, staining, etc.

2. **Agricultural Bacteriology.** 1 hr. lect., 3 hrs. lab. first half.
Demonstrations and lectures, elementary in character. Practical laboratory exercises in elementary bacteriology.

31. **Bacteriology (Nurses' Course)**
1 hr. lect., 2 hrs. lab., period of 15 weeks.
This course deals primarily with elementary bacteriology with the object of finally leading the pupils to that knowledge of the subject adequate to the practice of their profession. The course includes the bacteriology of disease, water and milk, and will deal with immunity and resistance.

51. **Pathogenic Bacteriology.** 1 hr. lect., 2 hrs. lab.
The relation of bacteria and the higher parasites to disease. Cultivation of pathogenic micro-organisms; isolation and identification of bacteria pathogenic to man, etc.
Text-book: Jordan, *General Bacteriology.*

52. **Agricultural Bacteriology.** 1 hr. lect., 3 hrs. lab. sec. half.
Plant diseases; study of specific micro-organisms; soil bacteriology; dairy bacteriology; diseases of animals.
Text-book: Marshall, *Microbiology.*

61. **Elementary Bacteriology.** 1 hr. lect., 3 hrs. lab. first half.
Demonstrations in elementary bacteriology. Practical laboratory exercises, i.e., making of media, staining, etc.

Hygiene

31. **Hygiene and Sanitation.** 15 periods 1-hr. each.
This course aims to give through the medium of lectures, demonstrations, etc., the knowledge of hygiene and sanitation necessary to the nurse in the practice of her profession, and also to fit her for intelligent co-operation with public health authorities. The subject matter of the course will include such topics as communicable diseases, air, ventilation, water and water supplies, sewage and garbage disposal, and the hygiene of

schools, etc., and will deal with housing, industrial hygiene, vital statistics, public health departments and health legislation.

32. Personal Hygiene (Nurses' Course). 10 periods 1-hr. each.
This course deals with exercise, clothing, nutrition, the skin, respiration, special senses, nervous system, reproductive system, and the relation of personal hygiene to community health. The course is for nurses.

51. Elementary Hygiene. 1 hr. first half.
The principles of sanitary science.

52. Hygiene and Sanitation. 1 hr. sec. half.
Points to be observed in design and construction of buildings to secure the best conditions of health.

53. Hygiene. 1 hr. and 8 2-hr. periods.
This course is for medical students and aims to give through the medium of lectures, demonstrations and inspections, the knowledge of preventive medicine, sanitation and hygiene necessary to the practitioner.
Text-books: Parks & Kenwood, Roseneau, Park, Hope & Stallybrass, Boyd, Fitzgerald.

DEPARTMENT OF BIOCHEMISTRY

1. General Course. 3 hrs. lect., 3 hrs. lab.
Open to third year students of Medicine.

61. General Course. 3 hrs. lect., 3 hrs. lab.
Same as Biochemistry 1, but laboratory at different hour. Senior subject open to students in Arts, Household Economics, degree students in Pharmacy and to other students with the prerequisites Chemistry 3 or 52.
Subject Matter of Lectures:
Chemical: Elementary composition of "living matter." Water in relation to organisms. Certain physico-chemical considerations of importance in Biochemistry. Chemistry of carbohydrates and glucosides and of fats and allied substances from a biological aspect. Chemistry of amino acids and related tissue constituents. Organic and physical chemistry of proteins. Organic biochemistry of pyrrole, glyoxalin, thiolglyoxaline, pyrimidine, purine, indole, etc. Chemistry of the nucleic acids and of certain natural bases. *Enzymes*: Chemical knowledge of enzymes and nature of enzyme action; its importance in plant

and animal. *Food and Digestion*: Composition of food and influence of cooking on certain constituents. Secretions, enzymes and their action on food constituents: absorption in the gastro-intestinal tract. Hormones. *Respiratory Metabolism*: Oxygen in relation to nutrients. Energy and gaseous exchange of the organism. *Blood*: Clotting; composition of serum and cells. Haemoglobins and cytochrome. Functions of haemoglobin in respiratory exchange and in carbon dioxide and oxygen transport. Blood as vehicle for nutrients to, and as carrier of waste products from tissues. *Muscle*: Composition and extractives. Chemical changes in muscular exercise. *Carbohydrate metabolism and insulin.* Starvation ond the *metabolism of fat. Protein metabolism* and urine constituents. *Bone*: Factors regulating formation of; relation to mineral metabolism. *Internal secretions.* Essential amino acids and vitamins in *nutrition.*

The Laboratory Courses are designed to illustrate as far as possible the theory of the lectures.

Text-books: Cameron, *A Text of Biochemistry;* Hawk and Bergheim, *Practical Physiological Chemistry.*

Reference books: Longman's *Monographs of Biochemistry;* Mitchel and Hamilton, *Biochemistry of the Amino Acids;* Jordan Lloyd, *Chemistry of Proteins;* Barcroft, *Respiratory Function of the Blood;* Lusk, *The Science of Nutrition;* McCollum and Simmonds, *The Newer Knowledge of Nutrition.*

2. Biochemistry 1 hr. lect., 2 hrs. lab. (6 wks.)

Open to second year Pharmacy Licentiate.

Preparation of reagents in demand by the medical profession for testing urine, blood, etc.

Advanced Courses.

51. Pathological Chemistry. 3 hrs. lab.

Open to fourth year Medical students, and students in the faculty of Arts and Sciences. The course is designed as an introduction to 52. Part of the first hour is occupied with theoretical considerations, some emphasis is put on technique, and an indication given of clinical applications. A fair knowledge of the chemistry of urine and adequate practice in the examination of pathological urines is thus obtainable in the first term. The second term is occupied with a study of microchemical methods for the estimation of blood constituents of

importance in clinical conditions. Some time is also given to gastric analysis and the examination of cerebro-spinal fluid.
Text-book: Hawk and Bergheim.
Prerequisite for students in the faculty of Arts and Sciences: Biochemistry 61.

52. Pathological Chemistry. 1 hr. lect.
Open to fifth year Medical students, and to certain students in the faculty of Arts and Sciences.
About thirty lectures on the relation of chemistry to medicine, comprising: *basal metabolic rate*—theoretical aspects, methods of determination, and variations in clinical conditions; thyroxine. *Acid-base balance of the blood*—relation to respiration and kidney function. *Acidosis*—diabetic, nephritic; *alkalosis* and vomiting. Methods of control and pitfalls in treatment of those conditions. *Water balance*—Oedema, anhydraemia and dehydration. Vomiting of pregnancy. *Diabetes*—carbohydrate and fat metabolism in; glucose tolerance; insulin action. *Nephritis*—blood and urinary findings in; kidney function tests. *Intestinal* obstruction and intoxication. *Fevers*—metabolism in; *Jaundice*—bilirubin and diazo-reaction, liver function. *Deficiency diseases.*
Literature: Special articles referred to in course of lectures. Arts and Science students proceeding to the degrees of M.A. or M.Sc. in Biochemistry are required to take courses 51 and 52, with special reading in the subject chosen for research. The Head of the Departmentment may be consulted with regard to research facilities.
Prerequisite for students in the faculty of Arts and Sciences: Biochemistry 61.

DEPARTMENT OF BOTANY

1. General Elementary Botany. 3 hrs. lect., 3 hrs. lab.
Morphology, physiology of the cell; elements of vegetable morphology, anatomy and physiology, Mendelism, genetics.
Prerequisite: Physics 1.

2. General Elementary Botany (Medicine and Dentistry). 3 hrs. lect., 2 hrs. lab.

3. General Elementary Botany (Pharmacy). 2 hrs. lect., 3 hrs. lab.

Elements of vegetable morphology, anatomy and physiology, classification of flowering plants.

4. Agricultural Botany (3rd year Agriculture).
1 hr. lect., 2 hrs. lab. sec. half.
Classification, morphology and physiology of fungi; diseases of plants.
Prerequisite: Botany 1.

Senior Courses.

52. 3 hrs. lect., 3 hrs. lab.
Plant Physiology with special reference to the physiology of the cell, assimilation and conduction. Ecological consideration of the representative plant formations and associations of the North temperate belt.
Prerequisites: Botany 1 and 53 or 54, Chemistry 52.

53. 3 hrs. lect., 3 hrs. lab.
Classification, morphology and anatomy of the Algae, Fungi, Bryophyta and Pteridophyta. General methods of plant histology. Evolution of the lower groups of plants.

54. 3 hrs. lect., 3 hrs. lab. and Field Work.
Classification, morphology and anatomy of the Spermatophyta. General principles of heredity. Origin and development of plant associations with special references to some district in Alberta.

Honours Courses.

101. Palaeobotany. 3 hrs. lect., 6 hrs. lab.
Evolution of modern groups of plants as illustrated by the structure of fossil types from various geological horizons, plant remains in peat, lignite and coal.
Prerequisites: Botany 1, Botany 53 or 54, Geology 51 and 52.

102. Comparative Anatomy and Ecology. 3 hrs. lect., 6 hrs. lab.
Evolution of chief tissues and organs of plants treated from a comparative point of view.
Prerequisites: Botany 1, Botany 52 and 53 or 54, Chemistry 52.

103. Comparative Distribution of Vegetation and Ecology.
3 hrs. lect., 6 hrs. lab. and Field Work.
Distribution of vegetation in time and space considered from a dynamical point of view.
Prerequisites: Botany 1, 52, 53, 54; Geology 52.

Graduate Courses.

Graduate students who have had the necessary training and wish to carry on research in some field of Botany should consult the head of the department.

DEPARTMENT OF CHEMISTRY

1. General Chemistry. 3 hrs. lect., 3 hrs. lab.

Lectures: A systematic study of common non-metallic elements; a few typical metallic elements; the more important compounds of each; fundamental laws and theories.

Laboratory: Experiments illustrative of the principles discussed in lectures.

Text-books: Smith, *Chemistry for Colleges* (The Century Company), or McPherson and Henderson, *A Course in General Chemistry* (Ginn).

2. General Chemistry. 3 hrs. lect., 6 hrs. lab.

For students in Medicine, Dentistry and Pharmacy.

Lectures: Lectures the same as Chemistry 1.

Laboratory: Experiments to illustrate the principles discussed in lectures; additional exercises in quantitative analysis and an introductory course in qualitative analysis.

Text-books: Smith, *Chemistry for Colleges* (The Century Company), or McPherson and Henderson, *A Course in General Chemistry* (Ginn); Reedy, *Elementary Qualitative Analysis* (McGraw-Hill).

3. Organic Chemistry. 3 hrs. lect., 3 hrs. lab. sec. half.

For students in Medicine, Pharmacy and Dentistry.

Lectures: An introduction to both the paraffin and the benzene series.

Laboratory: The preparation of some organic compounds.

Text-books: Lowy and Harrow, *Introduction to Organic Chemistry* (Wiley); Porter, Stewart, Branch, *The Methods of Organic Chemistry* (Ginn).

4. Organic Chemistry. 3 hrs. lect.

For students in Agriculture.

Lectures: the lecture course of Chemistry 52.

5. Quantitative Chemical Analysis. 1 hr. lect., 3 hrs. lab. first half.

A course in Volumetric and Gravimetric analysis, for students in Agriculture.

31. Elementary Chemistry. 1 hr. lect., 2 hrs. lab. first half.

For Nurses.

Lectures: Some of the more common elements and a few of their compounds; some simple laws and theories.

Laboratory: Experiments illustrative of the principles discussed in lectures.
Text-book: Roe, *Principles of Chemistry* (Mosby Co.).

Senior Courses.

41. Inorganic Chemistry. 3 hrs. lect., 3 hrs. lab.
Lectures: Continuation of Chemistry 1 with special emphasis on the metals.
Laboratory: Qualitative analysis of inorganic substances.
Text-books: Mellor, *Modern Inorganic Chemistry* (Longmans); Ware, *Essentials of Qualitative Chemical Analysis* (Wiley).
Reference book: Treadwell and Hall, *Analytical Chemistry*, Vol. 1 (Wiley).

42. Organic Chemistry. 3 hrs. lect., 3 hrs. lab.
Lectures: An introduction to the aliphatic and the aromatic series.
Laboratory: The preparation of some organic compounds.
Text-books: Porter, *The Carbon Compounds* (Ginn); Porter, Stewart, Branch, *The Methods of Organic Chemistry* (Ginn).

54. Physical Chemistry. 3 hrs. lect., 3 hrs. lab.
Lectures: Fundamental concepts; structure of matter; properties of gases, liquids and solids; thermochemistry; solutions; electrochemistry; equilibrium; phase rule; colloid chemistry; photochemistry.
Laboratory: Experiments on properties of gases, liquids and solids; thermochemical measurements; molecular weight determinations; solubility and eutectic points; dissociation and association; conductivity; concentration cells.
Text-books: Getman, *Outlines of Theoretical Chemistry* (Wiley); Findlay, *Practical Physical Chemistry* (Longmans).

56. Quantitative Analysis. 2 hrs. lect., 6 hrs. lab.
For students in Chemical and Mining Engineering.
Lectures: Principles and methods of quantitative analysis.
Laboratory: Gravimetric analysis, volumetric analysis, electro-analysis, gas analysis; analysis of ores, fuels and water.
Prerequisite: Chemistry 41.

57. Agricultural Chemistry. 3 hrs. lect., 3 hrs. lab.
Lectures: Digestibility, assimilation, and function of nutrients; composition of fodders and expression of their nutritive value.
Laboratory: Analysis of fodders.

For students in Agriculture.
Text-book: Lincoln and Walton, *Elementary Quantitative Analysis* (Macmillan).

58. Analytical Chemistry. 3 hrs. lect., 3 hrs. lab.
Lectures: Principles and methods of quantitative chemical analysis; gravimetric, volumetric, colorimetric; standardization of apparatus; sampling.
Laboratory: Work illustrating the lectures.
Text-books: Fales, *Inorganic Quantitative Analysis* (Century Co.); Talbot, *Quantitative Chemical Analysis* (Macmillan).
Reference book: Treadwell and Hall, *Analytical Chemistry*, Vol. 2 (Wiley).

59. Chemistry of Foods. 3 hrs. lab. first half, 6 hrs. lab. sec. half.
For students in Household Economics.
A course for the analysis of staple food materials, such as flour, milk, fats and oils, butter, etc., to determine their value and detect adulteration.
Text-book: Winton, *Food Analysis* (Wiley).

60. Electrochemistry. 3 hrs. lect., sec. half.
For students in Electrical Engineering.
Lectures: Ionization; conductivity; electrode potentials; concentration cells; accumulators; electroanalysis; electroplating; electrometallurgy; industrial electrochemistry.
Text-book: Thompson, *Theoretical and Applied Electrochemistry* (Macmillan).

61. Metallurgy. 1 hr. lect., 2 hrs. lab.
For students in Third Year Dentistry.
Lectures: Methods of preparation and properties of metals and alloys used in Dentistry.
Laboratory: Preparation of metals, alloys, amalgams, and cements; examination of physical and chemical properties of metals; analysis of alloys.
Text-book: Hodgen, *Practical Dental Metallurgy* (C. V. Mosby Company).

62. Industrial Chemistry. 3 hrs.
Description of industrial processes in chemical and allied chemical industries, stoichiometrical calculations, visits to local plants, reports.
Prerequisite: Chemistry 41.

63. Practical Experience.

Students in Chemical Engineering are required to find employment in some industrial plant involving chemical applications for at least one summer prior to graduation. A satisfactory report on the principles involved in the industry so chosen must be presented to the Department of Chemistry for approval.

Honours Courses.

101. Organic Chemistry. 3 hrs. lect., 6 hrs. lab.

Lectures: Advanced aliphatic series.

Laboratory: Preparation of some aliphatic compounds; quantitative and qualitative organic analysis.

Text-book for Laboratory: Gatterman, *Practical Methods of Organic Chemistry* (Macmillan).

Reference books: Schmidt, *Organic Chemistry* (Van Nostrand Co.); Henrich, *Theories of Organic Chemistry* (Wiley); Cohen, *Organic Chemistry*, Vols. I, II, III, 5th edition (E. Arnold & Co.) Students will also consult the original literature where possible and also certain of the American Chemical Society's Monographs.

102. Organic Chemistry. 3 hrs. lect., 6 hrs. lab.

Lectures: Advanced aromatic series.

Laboratory: Preparation of some aromatic compounds; qualitative and quantitative organic analysis.

Text-book for Laboratory: Gatterman, *Practical Methods of Organic Chemistry* (Macmillan).

Reference books: The same as for Chemistry 101.

103. Physical Chemistry. 3 hrs. lect., 6 hrs. lab.

Lectures covering the same topics as in 54, but with more advanced treatment, and with greater emphasis on mathematical relations.

Laboratory: Practical measurements to illustrate the lecture course.

Text-books: Eucken, *Fundamentals of Physical Chemistry*, translated by Gette and La Mer (McGraw-Hill).

Reference: Nernst, *Theoretical Chemistry* (Macmillan).

Prerequisites: Mathematics 55, and Chemistry 54.

104. Physical Chemistry. 3 hrs. lect., 6 hrs. lab.

Selected topics from Chemical Thermodynamics; electrochemistry; colloid chemistry; and photochemistry.

DEPARTMENT OF CIVIL AND MUNICIPAL ENGINEERING

Junior Courses.

1. **Applied Mechanics.** 2 hrs. lect.
Composition and resolution of forces; bending moments; shears and reactions; funicular polygon; stresses in simple framed structures; centre of gravity; moments of inertia; application of funicular polygon to arches and hanging chains.
Prerequisite: Mathematics 21, 22.
Corequisite course: Mathematics 25.

2. **Mapping.** 3 hrs. lab. first half.
Topographical and conventional signs; contour maps and problems; plotting from notes; mine survey notes; problems on areas by latitudes and departures, division into triangles, and planimeter.

3. **Materials of Construction.** 2 hrs. lect.
General characteristics, manufacture and use of woods, metals and their ores, cast iron and malleable cast iron, wrought iron, steels (corrosion of iron and steel), other metals and alloys, limes and plasters, cements, mortars, concrete, clay products, glass, building stones, masonry construction, oils and paints, asphalts, bitumens, etc., explosives.
Text-book: Johnson, *Materials of Construction* (Wiley).

5. **Surveying.** 2 hrs. sec. half.
Construction, adjustments and use of instruments; surveying methods; topography; contour surveying; mine surveying; railway alignment problems; land system of the Dominion; description for deeds; photographic surveying.
Text-book: Foote, Rayner and Davies, *Surveying* (Wiley).
Prerequisite: Mathematics 2.
This course is resumed and given daily during Survey Field Work, C.E. 6.

6. **Survey Field Work.** 4 weeks at end of sec. half.
Field work, including chaining, rodding, levelling, transit work, plotting of field notes.
Corequisite: C.E. 5.
The field work of this course is available to students in Agriculture.
Exemption from attendance at Survey Field Work may be granted to those students whose previous experience or engagement on similar work is satisfactory to the Faculty Council.

7. Survey Field Work. 4 weeks at end of sec. half.

Field work, including adjustments of instruments; railway preliminary and location surveys; cross-sectioning; staking out buildings; plane table survey; determinations of azimuth, longitude, latitude and time by solar and stellar observations; base line measurements; angular measurements.

Exemption from attendance at Survey Field Work may be granted to those students whose previous experience or engagement on similar work is satisfactory to the Faculty Council.

8. Applied Astronomy. 4 weeks at end of sec. half.

Daily lectures during the period of Survey Fieldwork (C.E. 7) are given on practical astronomy and geodesy, including problems and methods of observing for latitude time, longtitude, and azimuth, sufficient to meet the needs of the practical surveyor. Text-book: Hosmer, *Astronomy* (Wiley).

Prerequisite: Math. 21, C.E. 6.

10. Science and Engineering. 1 hr. lect. first half.

This course is a series of lectures on scientific and engineering topics. Its purpose is to point out to the student the important relations between science and modern industry, to impart an insight into some of the problems in the various branches of engineering, and to show the relation of other branches of learning to those of the engineering profession.

Text-book: John Hays Hammond, *The Engineer.*

11. Strength of Materials. 2 hrs. lect., 3 hrs. lab. alternate weeks.

Lectures and exercises on the strength of materials. Theory is illustrated by a large number of practical problems, including applications to columns, beams, girders, continuous girders and shafting.

Text-book: Maurer and Witbey, *Strength of Materials* (Wiley).

Prerequisite: Math. 21, 22.

12. Engineering Problems. 3 hrs. lab. sec. half.

Typical problems involving engineering computations and methods.

Senior Courses.

52. Foundations. 2 hrs. lect., 3 hrs. lab. sec. half.

Classification, examination and bearing power of soils; design of foundations; pile foundations; spread footings; coffer-dams; pneumatic caissons.

Text-book: Jacoby and Davis, *Foundations for Bridges and Buildings* (McGraw-Hill).

Prerequisite: C.E. 83.

53. Theory of Structures. 3 hrs. lect.

Influence lines and maximum stresses under static and moving loads for beams; girders and trusses; lateral and portal bracing; viaduct towers and spaced frames; deflection and camber; method of least work; masonry structures; arches; suspension bridges.

Text-book: Spofford, *Theory of Structures* (McGraw-Hill).

55. Hydraulics. 2 hrs. lect., 3 hrs. lab. alternate weeks.

Fundamental principles considered and applied to problems on discharge from orifices, notches, weirs, pipes and open channels; theory of impact of jets, turbines, pumps, hydraulic transmission of power, accumulators and lifts; discussion of hydrology; stream measurements and water-power development. Laboratory work illustrates principles and includes measurements of discharge from orifices and notches, tests of hydraulic ram, Pelton wheel, reaction turbine and centrifugal pump.

Text-book: Gibson, *Hydraulics and Its Application* (Constable).

Prerequisite: Math. 25.

57. Applied Thermodynamics. 3 hrs. lect., 3 hrs. lab. alternate weeks.

Fuel and combustion; steam boilers, engines, turbines and auxiliary machinery; the gas producer; internal combustion engine; compressed air; refrigeration.

Text-book: Ripper, *Steam Engine Theory and Practice* (Longmans and Co.).

Reference books: Clerk, *The Gas, Petrol and Oil Engine* (Longmans and Co.); Robson, *Power Gas Producers* (Arnold).

Prerequisite: Math. 25.

62. Structural Design. 2 hrs. lect., 3 hrs. lab.

Quantity surveying and estimates; practical design of members in simple tension, columns and beams; rivets and riveting;

timber framing; loads on structures, roof trusses, building frame layouts; latticed columns, tension and compression members under direct stress and bending; eccentric connections. The design and detailing of a steel roof truss will be carried out in draughting-room.
Text-book : Thayer, *Structural Designs*, Vol I (Van Nostrand).
Prerequisite : C.E. 11.

63. Structural Design. 2 hrs. lect., 3 hrs. lab.
History of bridge engineering; plate girders, loads, floor systems, types, design; reinforced concrete buildings and bridges; slow burning mill construction. Designs of a plate girder bridge, a reinforced concrete building and a retaining wall will be done in the draughting-room.
Prerequisites : C.E. 11, 62.
Corequisite : C.E. 53.

66. Materials of Construction. 1 hr. lect., 3 hrs. lab.
Standard tests of materials of construction including reinforced concrete beams and columns.
Prerequisite : C.E. 11.

68. Water Power Engineering. 1 hr. lect., 3 hrs. lab. sec. half.
History; available power; regulation of stream flow; location of power site; design of controlling structures and hydraulic machinery; accessories; economics.
Reference : Creager and Justin, *Hydro-Electric Engineers Handbook* (Wiley).
Prerequisite : C.E. 55.

74. Land Transportation. 3 hrs. lect.
Financing of railway and highway projects; economics of location, construction, operations and maintenance; construction details; methods of location; care of city streets.
Text-books : Blanchard, *Elements of Highway Engineering* (Wiley) ; Webb, *Railroad Construction* (Wiley).

75. Elements of Irrigation. 2 hrs. lect.
A course for students in Agriculture, who should also take C.E. 6 Field Work.

76. Town Planning. 1 hr. lect., 3 hrs. lab. first half.
History of town planning in Europe and on this continent; town planning in Alberta; rural planning, including colonization problems, farmstead planning, highway development and con-

trol, provincial park system, subdivision and housing control, and subdivision design; urban planning and particular problems of towns partially destroyed by fire and to be rebuilt.

77. Engineering Construction.
2 hrs. lect. first half, 3 hrs. lab. alternate weeks.
Quantities surveying; estimates; organization of construction forces and equipment; economics.

78. Hydrology. 3 hrs. lab.
The distribution and occurrence of water in nature and its relation to hydraulic engineering. Precipitation, percolation, evaporation, transpiration, run off, river discharge, storage, etc.
References: Meyer, *Elements of Hydrology* (Wiley); Hoyt and Grover, *River Discharge* (Wiley); Creager and Justin, *Hydro-Electric Engineers Handbook* (Wiley).

79. Materials of Construction. 1 hr. lect., 3 hrs. lab. first half.
Selected topics from C.E. 66 especially suitable for students in Architecture.

80. Structural Design. 2 hrs. lect., 3 hrs. lab.
Similar to C.E. 62, but including problems especially suitable for students in Architecture.

81. Water Supply Engineering. 2 hrs. lect., sec. half.
Quantity, quality and pressure requirements; collection and intake works; purification works; distribution system and details; designs and estimates; maintenance and operation.
Text-book: Turneaure and Russell, *Public Water Supplies* (Wiley).

82. Sewerage. 2 hrs. lect., 3 hrs. lab. first half.
Separate and combined systems; collection methods, pipe layout and details; purification and dilution treatments; laws and regulations; estimates; operation.
Text-book: Folwell, *Sewerage* (Wiley).

83. Strength of Materials. 2 hrs. lect. sec. half.
Applications of elementary theorems in elasticity; continuous beams, thick hollow spheres and cylinders; hooks, combined stresses, reinforced concrete and other composite structures.
Text-book: Maurer and Witbey, *Strength of Materials* (Wiley).
Prerequisite: C.E. 11.

DEPARTMENT OF CLASSICS

Students who enter the University deficient in Latin and are in their first year taking Latin A, may be permitted, if they pass with a mark of 75%, to read the authors of the first year course during the summer and write these off at the time of the supplemental examinations in September. No credit will be granted until the second year work in Latin has been successfully completed.

Similarly, students taking a first year course in a language, who obtain 85 per cent., may with the consent of the Department, read the authors of the second year course during the summer and write these off at the time of the supplemental examinations in September at which time second-class standing must be obtained. No credit will be granted for the course unless and until a senior course in the language concerned is successfully completed in the following year.

Students intending to apply for the privilege referred to above should notify the Registrar's office not later than May 15th.

Latin

Junior Courses.

A. Matriculation Latin. 3 hrs.

A course designed to enable students with a deficiency in entering Latin to satisfy the matriculation requirements in that subject.

Inglis and Prettyman, *First Book in Latin* (Macmillan); *Tales of Great Generals* (Lowe: Oxford); Ovid, *Metamorphoses*, Selections (Hall: Macmillan).

By joint regulation of the Faculties the passing mark in this course is fixed at 65%.

1. First Year Latin Authors. 2 hrs.

Pliny, *Selected Letters* (Chase and Stuart: Noble and Noble); Vergil, *Aeneid II* (Jackson: Oxford Elementary Classics); Sight Translation.

3. First Year Latin Prose Composition. 1 hr.

A study of the major principles of Latin prose syntax illustrated by sentences based on Pliny's Letters. For grammatical references use Introduction to *Baker and Inglis' Latin Prose* (Macmillan).

2-4. Second Year Latin Authors and Prose Composition. 3 hrs.

A Latin Reader (Petrie: Oxford), Selections illustrating Roman history, literature, and antiquities. Sight Translation.

Exercises in continuous Latin prose composition from Pillsbury's *Latin Prose Composition* (Oxford). Grammatical references as in Latin 3 above, or to any good Latin grammar.

36. Pharmaceutical Latin. 1 hr. sec. half.
A course in Latin essentials as required in the School of Pharmacy.
No text-book is required, but for reference students may procure: *Latin for Pharmacists* (Howe and Beard: Blakiston), and *Medical and Pharmaceutical Latin* (Bennett: Churchill).

Senior Courses.

51. Cicero (Letters); Horace (Epistles). 3 hrs.
Cicero, *Select Letters* (Abbott: Ginn); Horace, *Epistles* (Wilkins: Macmillan). Sight Translation.

52. Tacitus; Horace; Vergil. 3 hrs.
Tacitus, *Annals I, II* (Furneaux: Oxford); Horace, *Odes I and III* (Page: Macmillan's Elementary Classics); Vergil, *Georgics I* (Wimbolt; Blackie). Sight Translation.

53. Seneca; Martial; Juvenal. 3 hrs.
Seneca, *Epistulae Morales* (Summers: Macmillan); Martial, *Select Epigrams* (Bridge and Lake, Vol. II: Oxford); Juvenal, *Select Satires* (Pearson: Oxford); Sight Translation.
Course for third and fourth year students in 1930-31.

54. Cicero (philosophy); Lucretius. 3 hrs.
Cicero, *De Officiis* (Holden: Cambridge); Lucretius, *De Rerum Natura I, III* (Merrill: American Book Co.). Sight Translation.

55. Tacitus; Juvenal. 3 hrs.
Tacitus, *Agricola and Germania;* Juvenal, *Select Satires.*

56. Cicero (orations); Catullus; Vergil. 3 hrs.
Cicero, *Pro Lege Manilia, Pro Archia, Pro Milone;* Catullus, *Selections;* Vergil, *Aeneid VI.* Sight Translation.

57. Plautus; Cicero (essays). 3 hrs.
Plautus, *Miles Gloriosus* and *Menaechmi;* Cicero, *De Senectute, De Amicitia.* Sight Translation.

Honours and Graduate Courses.

101. Cicero. 2 hrs.
Second Philippic and *Selected Letters* (Abbott: Ginn).

102. Tacitus; Suetonius. 2 hrs.

Tacitus, *Histories;* Suetonius, *Lives of the Caesars.*

A discussion of the methods of character delineation in these authors, and a detailed study of the historical facts involved.

103. Lucretius. 2 hrs.

104. Latin Literary Criticism. 2 hrs.

A study of the outlook and objects of Latin literary criticism as illustrated by Horace in the literary epistles and by Quintilian in the tenth book of the *Institutio Oratoria.*

105. Vergil, Aeneid.

The critical and exegetical study of Bk. IV; the reading of Books I-VI in the original, and VII-XII in translation. Particular attention will be paid to the literary history of the Epic and its technique.

Honours Course for 1930-31.

106. Sallust. 2 hrs.

The *Catiline* and the *Jugurtha.*

111. Advanced Latin Prose Composition. 1 hr.

Weekly exercises in Latin prose composition of the various styles.

113. Advanced Latin Sight Translation. 1 hr.

Weekly exercises in translating Latin prose and verse at sight.

114. Greek and Roman Private Life. 1 hr.

The Greek and the Roman portions will be given in alternate years.

Greek.

Attention is directed to the fact that beginning with the academic year 1920-21, Greek was made wholly a University subject. The language can therefore be begun in college, and this beginning course is credited towards a degree. (See page 29.)

Junior Courses.

A-1. Beginning Greek. 3 hrs.

The fundamentals of Greek syntax; elementary Greek composition and reading.

Beginner's Greek Book (Benner and Smyth: American Book Co.); *Colson's First Greek Reader* (Macmillan).

In accordance with the joint regulation of the Faculties in

regard to beginners' courses in languages, a passing mark of 65% is required in Greek A-1.

2-4. Herodotus: Euripides; Prose Composition. 3 hrs.
Tales from Herodotus (Farnell: Macmillan); Euripides, *Alcestis* (Bayfield: Macmillan). Sight Translation. Review of Greek forms. More difficult sentences for translation into Greek.
Elementary Greek Grammar (Thompson: Murray).

Senior Courses.

51. 3 hrs.
Thucydides *VII* (Perry: American Book Co.); Sophocles, *Oedipus Tyrannus* (Jebb, abridged; Cambridge); Aristophanes, *Birds* (Merry: Oxford).
Course for third and fourth year students in 1930-31.

52. 3 hrs.
Lysias, *Orationes XVI* (Shuckburgh: Macmillan); Aeschylus, *Prometheus Vinctus* (Harry: American Book Co.); Aristophanes, *Frogs* (Merry: Oxford).

53. 3 hrs.
Thucydides *II* (Mills and Jones: Oxford); Sophocles, *Antigone* (Jebb: Cambridge, abridged); Plato, *Phaedo* (Burnet: Oxford).

54.
Plato, *Protagoras;* Aeschylus, *Agamemnon;* Aristophanes, *Clouds.*

Honours and Graduate Courses.

101.
Homer, *Odyssey VII-XII* (Merry: Oxford). A study of the epic technique and the language of Homer. An examination of the life and thought of the Homeric world.

102.
Plato, *Republic I-IV* (Adam, Vol. I: Cambridge). An introduction to the Greek theory of the state.
Honours Course for 1930-31.

103.
Demosthenes, *Selected Public Orations.*

111. Advanced Greek Prose Composition.
Weekly exercises in Greek prose composition of the various styles.

113. Advanced Greek Sight Translation.
Weekly exercises in translating Greek prose and verse at sight.

114. See Latin 114.

Classics in English

51. Greek Life and Letters from Homer to Lucian. 3 hrs.
A study of life and thought in the Greek world for the period indicated. This will be based (a) on the literary documents, (b) on the department's collection of slides illustrating Greek art, architecture and natural environment. While some knowledge of the original language is desirable, it is not a prerequisite, as the literary documents are dealt with in translation.
Required in the second year of students looking forward to Honours in English or in Classics; open to all students of the third and fourth years in Arts and Sciences as an option in Group A (languages and literature).
Livingstone, *The Greek Genius* (Oxford); Hamilton, *Greece, a Short History* (Oxford).
See Department of General Literature, page 117.

Ancient History

51. The Rise and Decline of the Greek City State. 3 hrs.
A preliminary study of the political geography, physical geography, economics and industrial history of ancient Greece.
An examination of the sociology and politics of fifth century Athens as illustrating the city-state which developed in this environment. A study of the diffusion of Greek culture through the empire of Alexander.
Zimmern, *Greek Commonwealth* (Oxford: 3rd or 4th edition); Robinson, *History of Greece* (Methuen); Classical Atlas in Everyman's Library.
This course constitutes a desirable preliminary for Classics in English 51. Also recommended as a preparation for the teaching of the prescribed course of the Department of Education in Grade IX History.

52. The Roman Genius in the Mediterranean World. 3 hrs.
A preliminary study of the physical and political geography of ancient Italy.
An examination of the development of the Roman Republic and of the forces which brought about its transformation into the Principate.

COMMERCIAL LAW

Particular attention will be paid to the influence of the Roman power on the life and thought of the Mediterranean area, and to the relation of the Roman Empire to the mediaeval and modern world.

This course is recommended as a preparation for the teaching of the prescribed course of the Department of Education in Grade IX History.

Text-book: Heitland, *A Short History of the Roman Republic* (Cambridge); Classical Atlas in Everyman's Library.
(Not offered in 1930-31.)

COMMERCIAL LAW

1. Commercial Law. 3 hrs.

General principles of mercantile law, including contracts, partnerships and agency, real and personal property, company and municipal law, bills of exchange, law and practice of bankruptcy.

For students in third and fourth year Commerce.

Text-book: Anger, *Canadian Mercantile Law;* Selected Statutes and Cases.

DEPARTMENT OF DAIRYING

Junior Course.

1. General Dairying. 3 hrs. lect.-lab.

(1) Some aspects of the development and economic importance of the dairy industry and its organization, with special reference to Alberta conditions.

(2) The composition, physical properties, sanitary production, testing, separation, handling and marketing of milk and cream for direct consumption and for the purposes of manufacture; the recording of production of individual cows in the dairy herd and the utility of such records.

(3) The manufacture of butter and cheese; the legal standards and other provisions which apply to the production and marketing of dairy products under farm conditions.

Laboratory practice will be given in the testing of dairy products by the Babcock and other tests, in the operation of centrifugal cream separators, and in the manufacture of butter and cheese on a home dairy basis.

Senior Courses.

53. Testing and Grading of Dairy Products. 3 hrs. lect.-lab. first half.

This course will deal with the commercial testing and grading of milk, cream, butter and cheese for composition and quality.

54. Factory Dairying. 3 hrs. lect.-lab. sec. half.

An extension of Course 1, with special application to dairy factory operations.

56. Market Milk 3 hrs. lect.-lab. first half.

A consideration of the physics, chemistry, and bacteriology of fluid milk, the sanitary and hygienic control of market milk supplies, milk plant operation, and the problems of the market milk industry.

Prerequisite: Bacteriology 52.

(Not offered 1930-31.)

DEPARTMENT OF DENTISTRY

Junior Courses.

1. Prosthetic Dentistry. 1 hr. lect., 7 hrs. lab.

A study of the mouth; muscles of mastication; the tempero-mandibular articulation; the mucous membrane; the teeth; impression materials; impression taking; casts; artificial teeth; dentures; occlusion and articulation; waxing, festooning, investing, packing, vulcanizing, finishing and polishing full and partial dentures; retention of dentures; vulcanite bases; physical properties of vulcanite; chemistry of vulcanization; repairing dentures.

Text-book: Prothero's *Prosthetic Dentistry.*

2. Operative Dentistry. 1 hr. lect., 4 hrs. lab.

Lectures and demonstrations on nomenclature, dental caries, use of instruments, filling materials and operative methods. Laboratory course on cavity preparation, filling procedure, instrument making, general operative work.

Reference: *Operative Dentistry*, Black, Johnson and Clyde Davis.

3. (a) Prosthetic Dentistry. 1 hr. lect., 3 hrs. lab.

An extension of Dent. 1. Also advanced methods of impression taking; occlusion and contour models; taking the bite; face bow; condyle paths; incisor paths; articulators;

occlusion; articulation; rotation centres; principles governing retention; denture balance; applied physics; selection and arrangement of teeth according to type; vulcanite, celluloid, aluminum and gold denture bases; partial dentures; clasps; indirect retention.
Text-book: Prothero's *Prosthetic Dentistry.*

(b) Crown and Bridge. 1 hr. lect., 3 hrs. lab.

History of crown and bridge work; crowns and bridges; preparation of teeth for reception of different varieties of crowns and bridges; pontex; facings, grinding, casting, swaging, occluding, soldering; causes of failure in crown and bridge work; fixed and removable bridges; various metals used; applied metallurgy.
Text-book: Prothero's *Prosthetic Dentistry.*

Senior Courses.

51. Prosthetic Dentistry. 1 hr. lect., 7 hrs. lab. & clinic.

An extension of Dent. 3 (a) with practical application to cases in clinic.
Text-book: Prothero's *Prosthetic Dentistry.*
Reference: Wilson's *Dental Prosthetics.*

52. Operative Dentistry. 1 hr. lect., 7 hrs. lab. & clinic.

Lectures on operative procedure; laboratory technique as a preparation for future work in the infirmary; clinical practice suitable to the knowledge and ability of the student.
Text-book: Black's *Operative Dentistry.*

53. Crown and Bridge. 1 hr. lect., 3 hrs. lab. & clinic, 1st half.
1 hr. lect., 5 hrs. lab. & clinic, 2nd half.

An extension of Dent. 3 (b) with practical application to cases in clinic.
Text-book: Prothero's *Prosthetic Dentistry.*
References: Evans' *Crown and Bridge*, and Goslee's *Principles and Practice of Crown and Bridge work.*

54. Exodontia and Anaesthesia. 1 hr. lect.

Lectures and demonstrations on the technique of tooth extraction and the administration of Nitrous Oxide Gas and Oxygen, and local anaesthetics.

55. **Orthodontia.** 1 hr. lect., 2 hrs. lab.
Lectures on the causes, classification, and treatment of malocclusion; instruction in the laboratory on making and adjusting appliances on technic models.
Reference: *Orthodontia*, Angle ,Dewey, Lischer.

56. **Dental Radiology.** 1 hr. lect. sec. half.
A course devoted to the explanation of the principles of X-rays; lectures and demonstrations on the application of radiology to dentistry.
Reference: Raper's *Elementary and Dental Radiology.*

61. **Prosthetic Dentistry** 1 hr. lect., 6 hrs. lab. & clinic.
An extension of Dent. 51.
The same Text and Reference books.

62. **Operative Dentistry.** 1 hr. lect., 11 hrs. clinic.
A course similar to Dent. 52, but conforming to the advanced work of the final year.

63. **Crown and Bridge.** 1 hr. lect., 6 hrs. lab. & clinic.
An extension of Dent. 53.
The same Text and Reference Books.

64. **Exodontia and Oral Surgery.** 1 hr. lect., 2 hrs. clinic.
Lectures and demonstrations on operations usually performed about the mouth by the dental surgeon. Students taking this course will be required to extract teeth and assist at other operations.

65. **Orthodontia.** 1 hr. lect., 3 hrs. clinic.
Lectures on the principles of orthodontia, and clinics in the infirmary. Cases suited to the ability of the student will be treated by him under supervision.

66. **Dental Radiology.** 1 hr. lect. first half.
An extension of the course in Dent. 56, with special attention to radiographic technique, and the use of radiograms in the diagnosis of dental diseases.

67. **Peridontia and Preventive Dentistry.** 1 hr. lect., 1 hr. clinic.
Instruction in the treatment and prevention of diseases of the teeth and surrounding membranes.

68. **Dental Medicine.** 1 hr. lect.
Special lectures on medicine as applied to diseases of the mouth met with in a dental practice.

69. Ceramics. 1 hr. lect., 1 hr. lab. & clinic.

Cavity preparation for porcelain inlays; porcelain jacket crowns; porcelain bridges; high and low fusing porcelain, mixing, blending of colour, fusing, etching, setting.
Text-book: Prothero's *Prosthetic Dentistry.*
Reference: Thompson's *Ceramics.*

Prosthetic Clinic.

Each student in both the 4th and 5th years is required to carry to completion for patients a number of practical cases representing the various classes of prosthetics.

70. Ethics and Economics. 1 hr. lect. sec. half.

Lectures on ethics include a discussion of the ideals of private and public life, man's attitude towards his fellow-man, the proper relations between the dentist and his confrère, and between him and his patient. Advertising with legitimate practice building also will be dealt with.
Reference: Noyes' *Ethics and Jurisprudence.*
Under Economics, instruction will be given in the fundamentals of office management, including purchasing outfit and supplies, personal appearance and conduct, financial affairs, bookkeeping, investments, etc.
Reference: Johnson's *Success in Dentistry.*

71. Jurisprudence. 3 lectures, sec. half.

The legal aspects of dentistry, including the responsibility of the dentist to his patients, the dentist's rights under the laws of each province, the different phases of malpractice, and such other legal knowledge as will be found helpful in the conduct of a practice.

DEPARTMENT OF DRAWING AND DESCRIPTIVE GEOMETRY

1. Architectural Drawing. 3 hrs.

Geometrical representation of architectural subjects, more especially the classical orders of architecture.

2. Elementary Mechanical Drawing. 3 hrs.

Use of instruments, projection, simple machine details, timber framing, tinting, tracing, and blue printing. Freehand sketching of machine parts. Lettering and titles.

3. Freehand and Lettering. 6 hrs.

A course related to Architecture, comprising perspective views, drawing from casts of ornament and from natural forms; lettering.

4. Descriptive Geometry. 2 hrs. lect., 3 hrs. lab.

Geometrical drawing, orthographic and metric projection, problems on lines and planes, sections and developments, conic section and other curves, curved surfaces and tangent planes, shades and shadows.

6. Mechanical Drawing. 3 hrs. alternate weeks.

Preparation of working drawings from dimensioned sketches.

DEPARTMENT OF ELECTRICAL ENGINEERING

1. History of Science. 2 hrs. lect. sec. half.

A brief introduction to the general History of Science touching on the greatest scientific discoveries and their interest and importance.

Text-books: *History of Science*, Libby; *Science and the Human Mind*, Whetham.

51. Principles of Electrical Engineering. 3 hrs. lect., 6 hrs. lab.

(a) A review of the laws of electromagnetism, electric and magnetic circuits and the units used in electrical engineering. The theory and characteristics of direct current machinery. An introduction to the study of alternating current circuits and machinery is also included.

Text-book: Christie, *Electrical Engineering.*

References: Dawes, *Electrical Engineering, Vol. I.;* Gray, *Principles and Practice of Electrical Engineering;* Vinal, *Storage Batteries.*

(b) Electrical Engineering Laboratory.

The determination of the characteristics, regulation and efficiency of direct current machines; the use of measuring instruments, controlling and protective devices; the characteristics of storage batteries. The laboratory reports include a comparison of the results of experiment with those determined from theory and calculation.

Reference books: Ricker and Tucker, *Electrical Engineering, Laboratory Experiments;* Karapetoff, *Experimental Electrical Engineering, Vol. I.*

53. Elements of Electrical Engineering. 2 hrs. lect., 3/2 hrs. lab.
The laws of electromagnetism; continuous and alternating current flow in various circuits; characteristics of direct and alternating current machinery with a consideration of the class of work to which each machine is suited; the fundamental principles of electric traction, lighting and power distribution.
The laboratory course includes the determination of the characteristics and efficiency of various machines; the use of measuring instruments, controlling and protecting apparatus.
Text-book: *Principles and Practice of Electrical Engineering*, Gray.

54. Machine Design. 3 hrs. sec. half.
The principles of stresses and strength of materials as applied to particular parts of machines and machine fastenings, such as bolts, nuts, keys, cotters, and rivetted joints. Required of third year students in Electrical Engineering.
Text-book: Unwin, *Machine Design, Part I* (Longmans, Green).

55. Mechanics of Machines. 1 hr. lect., 2 hr. lab. first half.
The principles involved in the design of gears, gear trains, valves, valve gears, flywheels, governors. The theory of balancing.
Required of third year students in Electrical Engineering.
References: Durley, *Kinematics of Machines* (Wiley); Ripper, *Steam Engine Theory and Practice* (Longmans and Co.).

76. Principles of Electrical Engineering. 3 hrs. lect., 6 hrs. lab.

(a) The theory of alternating currents. A detailed consideration and analysis of the theory and characteristics of alternating current machinery.
Text-book: Christie, *Electrical Engineering.*
Reference books: Lawrence, *Principles of Alternating Current Machinery;* Dawes, *Electrical Engineering, Vol. II.*

(b) Electrical Engineering Laboratory:
The experiments are designed mainly to illustrate the theory of the course and when possible the results of experiment will be checked by calculations from machine data. Practice in the operation and control of the machines in the University power-house is also afforded.
Reference books: Ricker and Tucker, *Electrical Engineering Laboratory Experiments;* Karapetoff, *Experimental Electrical Engineering, Vol. II.*

77. Electrical Machine Design. 1 hr. lect., 3 hrs. lab.

The design of generators, motors and transformers.
The preparation of specifications.
Text-book: Gray, *Electrical Machine Design.*
Reference book: Slichter, *Design of Electrical Machinery.*

78. Electrical Power Transmission and Distribution. 2 hrs. lect.

The design of transmission and distribution lines for direct and alternating current systems and a consideration of the economic, electrical and mechanical principles involved. The design and operation of electric power-plants and substations. Experiments on artificial lines and high tension phenomena are included in 81 (b).
Text-book: Still, *Electric Power Transmission.*
Reference books: Woodruff, *Electric Power Transmission and Distribution; Electrical Characteristics of Transmission Circuits* (Compiled by Nesbit); Weingreen, *Electric Power Plant Engineering;* Gear and Williams, *Electric Service Distribution Systems.*

80. Electrical Communication. 2 hrs. lect. sec. half.

History and development; fundamental telephone and telegraph circuits and apparatus; the distribution of current and electromotive force over telephone lines; loaded lines and filters. The theory of oscillatory circuits and electromagnetic radiation; vacuum tubes and their application; radio communication. The principles of long-distance, automatic and carrier current telephony. Experiments on vacuum tubes and telephone circuits are included in 81 (b).
Text-books: Wright and Puchstein, *Telephone Communication;* Lauer and Brown, *Radio Engineering Principles.*

81. Applications of Electrical Power. 2 hrs. lect., 3/2 hrs. lab.

(a) (1) Electric Railways.
The principles of train operation; control systems; substations; distribution systems; electric locomotives and regeneration.

(2) Illumination and photometry.
The laws of illumination; standards of light; photometers; the characteristics of electric lamps; interior and exterior illumination.

(3) Industrial motor appliances. Electric furnaces and electric welding. General applications.

(4) Standards of the A.I.E.E.; National Electric Code. The Electrical Protection Act. Specifications and Contracts.

Reference books: Manson, *Railroad Electrification and the Electric Locomotive;* Harding, *Electric Railway Engineering;* Cady and Dates, *Illuminating Engineering;* Fox, *Electric Drive Practice.*

(b) Laboratory:

A general course designed to illustrate the theory of E.E. 78, 80 and 81. Experiments are included on artificial lines, high tension phenomena, telephone circuits, vacuum tubes and illumination.

82. Thesis.

Students taking this option will be required to make a detailed study of some special engineering problem and submit their results in the form of a thesis.

DEPARTMENT OF ENGLISH

Junior Courses.

1. Composition and Literature. 3 hrs.

Practice in Composition and study of selected texts.

Foerster and Steadman, *Sentences and Thinking* (Houghton Mifflin).

The following books are prescribed in part as illustrative material for the work in composition, in part as an approach to the appreciation of certain types of literature: Shakespeare, *Twelfth Night* (Tudor Shakespeare); Reade, *The Cloister and the Hearth* (ed. Wheeler, Oxford); Conrad, *Youth* (King's Treasuries Series, Dent); Shaw, *Saint Joan* (Constable); *Selected Short Stories* (World's Classics, Oxford); *Anthology of Modern Verse* (Methuen); *Challenging Essays in Modern Thought* (The Century Co.).

2. A General Reading Course in English Poetry and Prose. 3 hrs.

Lectures and class discussion.

Dixon and Grierson, *The English Parnassus* (Oxford Press); Broadus and Gordon, *English Prose from Bacon to Hardy* (Oxford Press).

3. Composition for Students in Agriculture. 1 hr.

Written and oral themes.

Senior Courses.

English 2, or an equivalent in mental discipline, is prerequisite to all senior courses in English literature.

52. A History of English Fiction. 3 hrs.

Lectures and class discussion.

Students are required to read the following works: Lodge's *Rosalind;* Bunyan's *Pilgrim's Progress;* Defoe's *Robinson Crusoe;* Smollett's *Roderick Random;* Richardson's *Clarissa Harlowe;* Fielding's *Tom Jones;* Sterne's *Tristram Shandy;* Goldsmith's *Vicar of Wakefield;* Scott's *The Heart of Midlothian;* Jane Austen's *Pride and Prejudice;* Dickens's *David Copperfield;* Thackeray's *Vanity Fair;* Trollope's *Barchester Towers;* Charlotte Bronte's *Jane Eyre;* George Eliot's *Adam Bede;* Meredith's *The Egoist;* Hardy's *Tess of the D'Urbervilles;* and the selections in *The English Novel Before the Nineteenth Century*, edited by Hopkins and Hughes (Ginn); Cross, *The Development of the Novel* (Macmillan).

53. Shakespeare. 3 hrs.

Lectures and class discussion.

Special study of the historical plays and of selected comedies and tragedies, with special reference to the development of Shakespeare's art as a dramatist. The following plays will be studied in the given order: *Henry VI, Parts* 1, 2 *and* 3; *Richard III; King John; Richard II; Henry IV, Parts* 1 *and* 2; *Henry V; Love's Labour's Lost; The Comedy of Errors; The Two Gentlemen of Verona; The Taming of the Shrew; The Merchant of Venice; Midsummer Night's Dream; Twelfth Night; The Tempest; Romeo and Juliet; Hamlet; Lear.*

Texts: *The Tudor Shapespeare* (Macmillan), and Neilson and Thorndike's *Facts About Shakespeare* (Macmillan).

54. Composition for Students in Agriculture. 1 hr.

Written and oral themes.

57. Poetry and Prose of the Romantic Period. 3 hrs.

Lectures and class discussion.

Selections from Crabbe, Cowper, Burns, Blake, Burke, Wordsworth, Coleridge, Scott, Lamb, Hazlitt, De Quincey, Byron, Shelley Keats.

English Poetry and Prose of the Romantic Movement, ed. Woods (Scott, Foresman).

59. Currents of Thought in Victorian Prose Literature. 3 hrs.
Lectures and class discussion.
J. S. Mill, *Utilitarianism*, and *Liberty* (Everyman's Library); Carlyle, *Sartor Resartus*, ed. MacMechan (Ginn); *Heroes and Hero-Worship*, ed. MacMechan (Ginn); *Past and Present* (World's Classics); Newman, *Apologia*, ed. Ward (Oxford); *Idea of a University* (Selections, Houghton Mifflin); Arnold, *Selections*, ed. Gate (Holt); Ruskin, *Selections and Essays*, ed. Roe (Scribner's); Huxley, *Readings*, ed. Rinaker (Harcourt, Brace).
(Not given 1930-31).

60. Milton. 3 hrs.
Lectures on essential aspects of seventeenth century life and literature.
Special study of *Paradise Lost*, and of selections from the prose works and minor poems.
Milton's Poetical Works (Oxford); *Selected Essays of John Milton* (Houghton Mifflin).

62. Chaucer. 3 hrs.
Lectures on English mediaeval life and literature. Special study of Chaucer's *Troilus and Criseyde*, and of the *Canterbury Tales*. Chaucer's *Works* (Oxford); *Canterbury Tales*, ed. Manly (Holt).

63. Prose and Poetry of the Eighteenth Century. 3 hrs.
Lectures and class discussion.
The following works will be studied as literature and with some reference to their social and political background: Assignments in *Poems of Dryden*, ed. Sargeaunt (Oxford); *English Poets of the Eighteenth Century*, ed. Bernbaum (Scribner's); Swift, *Tale of a Tub*, *Battle of the Books*, *Gulliver's Travels* (Oxford); *Addison and Steele* (Scribner's); *Restoration Comedies* (Everyman's Library); Goldsmith, *The Bee and other Essays* (Oxford); Johnson, *Lives of Dryden*, *Addison*, *Swift*, *Pope*, *Thomson*, *Collins*, *Gray* in *Lives of the English Poets* (World's Classics, 2 vols.).
Students are also required to read: Goldsmith's *She Stoops to Conquer;* Sheridan's *The School for Scandal;* and a representative selection from the letters of Swift, Gray and Walpole; the essays and speeches of Burke, and Boswell's *Life of Johnson.* The books for this additional reading will be available on the reference shelves.

64. Contemporary English Literature. 3 hrs.

Lectures, by four members of the department on representative contemporary work in poetry, drama, essays and biography, fiction. The books and selections to be studied in each of these divisions will be announced at the beginning of the course.

Those seeking credit for this course towards a degree must have previously taken another senior course in English.

Honours Courses.

104. Old English and History of the English Language. 3 hrs.

Emerson, *History of the Language* (Macmillan); Moore and Knott, *Elements of Old English* (George Wahr, Ann Arbor); Chambers and Wyatt, *Beowulf* (Cambridge University Press).

110. Chaucer. 3 hrs.

The same as English 62, with the addition of *The Book of the Duchesse*, *The House of Fame*, and *The Legend of Good Women*.

109. Conference Course.

Special topics to be arranged in consultation with the instructor.

Committee on the Use of English by Students.

Under the auspices of this committee the Department of English seeks to give special help to students deficient in English. For a full statement of the aims and function of the committee see page 29.

DEPARTMENT OF ENTOMOLOGY

Junior Course.

1. General Economic Entomology. 2 hrs. lect.

Structure and habits of insects in relation to their economic importance. Principles of control methods. Life histories and control of more important insect pests.

Text-book: Lochhead, *Economic Entomology*.

Senior Courses.

61. General Entomology. 3 hrs. lect., 3 hrs. lab.

Structure of insects, their habits and interrelationships; introduction to classification and recognition of common species; insects of major importance to agriculture and to human health.

Text-book: Folsom, *Entomology with reference to its Ecological Aspects*.

Reference books: Comstock, *An Introduction to Entomology;* Imms, *Textbook of Entomology*.

62. Taxonomy and Technique. 6 hrs. lect.-lab.

Classification of insects; methods of studying life histories; breeding, mounting and preserving insects.
Text-book: Comstock, *An Introduction to Entomology.*
Prerequisite: Entomology 61.

63. Advanced Taxonomy. 6 hrs. lect.-lab.

Classification and biology of, and literature upon, two or more of the major orders. Intending students must have prepared a general collection, which shall include at least fifty species in each order that they select for special study.
Prerequisite: Entomology 62.

DEPARTMENT OF FIELD CROPS

Junior Courses.

1. (a) Crop Production. 1 hr. lect.

A general introduction to the principles and practices of crop production, the economic importance and distribution of crop and weed plants, chief crop varieties, methods of crop improvement, the disease problem.

(b) Crop and Weed Plants, Seeds and Grains. 3 hrs. lect.-lab.

In 1930-31, to be merged with F.C. 54, and cover the same material.

Senior Courses.

50. Field Crops. 3 hrs. lect., 3 hrs. lab.

Grasses, cereals, flax, legumes, sunflowers, roots and potatoes. Botanical structures and relationships; varietal characteristics; adaptations and uses; diseases and methods of control; laboratory practice in identification and classification.
Prerequisite: F.C. 1 or equivalent credit, Bot. 1.
Text-book: Robbins, *Botany of Crop Plants.*

51. Crop Production: Principles and Practice. 3 hrs. lect.

Climatic factors; soil factors and root systems; crop rotations and tillage methods; preparation of seed and seeding; harvesting and storage; crop adaptations and the nature of yielding capacity; irrigation problems.
Prerequisite: F.C. 50; Soils 51 and 52.

54. Seeds and Grains. 3 hrs. lect.-lab.
Review of fertilization, embryogeny, structure, function and germination of seeds; identification of economic and weed seeds; seed preparation; varietal characteristics and judging of agricultural seeds and grains; seed and grain grading and inspection.

61. Genetics. 3 hrs. lect. first half.
An introductory course giving a survey of the field of genetics and designed to acquaint the student with the laws of variation and heredity with some suggestions of their application to the improvement of plants and animals.

62. Principles and Methods of Plant Breeding. 3 hrs. lect. sec. half.
A study of the application of genetic principles to plant breeding, with special reference to the role of hybridization and selection in plant improvement. The technique of plant breeding, plot management, use of checks and replicates, yield corrections, experimental error and interpretation of results, systems of seed distribution, and methods of pure seed production by farmers.
Prerequisite: F.C. 50 and F.C. 61.

Honours Courses.

101. Advanced Field Crops. 6 hrs.
A topical course, in which individual students select two or more important crops for intensive study in library and laboratory. Weekly meetings for discussion, in addition to supervised laboratory work.
(Not offered 1930-31.)

111. Advanced Genetics and Cytology. 6 hrs.
Study assignments and weekly conferences covering recent literature in genetics and cytology. Laboratory exercises involving breeding experiments with the fruit fly, statistical treatment of breeding ratios in corn, preparation of material for cytological study, and detailed microscopic study of somatic cell division, meiosis and double fertilization.
Prerequisite: F.C. 61.

121. Plant Biochemistry. 3 hrs. lect.
Physical and chemical principles underlying crop production.
(Not offered 1930-31.)

131. Plant Pathology. 3 hrs. lect.

Nature and economic aspects of plant diseases; non-parasitic diseases, virus diseases and diseases caused by parasites; morphological, anatomical, and physiological changes in diseased plants; mutual relationships of organisms; factors affecting development, distribution and survival of plant pathogenes, their entrance into host plants, and development within the hosts; principles of plant disease control.

200. Seminar in Field Crops. 1 hr.

Reports by students on the literature of selected topics, with class discussions. Required every year of all graduate students in field crops.

Graduate Courses.

Students with the necessary training may take work leading to the degree of M.Sc. Courses 51, 61, 62 and honours courses in field crops, related courses in other departments, and a research project may be selected in consultation with the student's adviser. Owing to limited accommodation for research, students desiring to register for such work should make arrangements well in advance.

DEPARTMENT OF GENERAL LITERATURE

51. Old and New Testament Literature.

A study of the historical background, authorship, sources, literary qualities, and general teaching of the various books and groups of books in the Old Testament. A sketch of Jewish literature subsequent to the Old Testament canon; the Jewish and Hellenistic environment; the occasion, authorship and content of the various books of the New Testament; the growth of the canon; the history of the text.

51. Classics in English.

See Department of Classics, page 162.

51. Comparative Literature.

See Department of Modern Languages, page 202.

DEPARTMENT OF GEOLOGY

Junior Courses.

1. General Geology (Second Year Arts). 3 hrs. lect., 2 hrs. lab.

Processes of destruction and reconstruction; interpretation of physiographical features with map study; stratigraphic column

with index fossils from each period; common minerals and rocks.
Text-books: Coleman and Parks, *Elementary Geology* (Dent.).

30. Introductory Geology (Second Year Civil and Electrical Engineering). 3 hrs. lect. first half, 3 hrs. lab. sec. half.

Physical geology and physiography; principles of mapping; interpretation of topographic maps; problems on geology; common rocks and rock-forming minerals.
Text-book: Ries and Watson, *Elements of Engineering Geology* (Wiley).

32. Introductory Geology (Mining and Chemical Engineering) 3 hrs. lect. first half; 2 hrs. lect., 3 hrs. lab. sec. half.

First term, same as Geology 30. Second term, Historical Geology.
Text-books: Ries and Watson, *Elements of Engineering Geology* (Wiley); Pirsson and Schuchert, *Text-book of Geology, Part* 2 (Wiley).

33. Geography of Mineral Deposits. 3 hrs. lect. first half.

The physiographical units of the world and the geographical distribution of mineral deposits.

Senior Courses.

50. Petrology (Fourth Year Mining and Metallurgy). 3 hrs. lect., 3 hrs. lab. first half.

Rock-forming minerals; classification of igneous, sedimentary and metamorphic rocks; macroscopic and microscopic examination of type specimens.
Text-book: Pirsson (Second Edition, Knopf), *Rocks and Rock Minerals* (Wiley).
Reference: Dana's *Text-book of Mineralogy* (Third Edition, W. E. Ford) (Wiley).

52. Mineralogy. 3 hrs. lect., 3 hrs. lab.

Principles of crystallography; physical and chemical properties of the metallic and non-metallic minerals; blow-pipe analysis.
Text-books: Dana's *Text-book of Mineralogy* (Third Edition, W. E. Ford) (Wiley); Lewis, *Determinative Mineralogy* (Wiley).
Reference: Brush and Penfield, *Determinative Mineralogy and Blow-Pipe Analysis* (Wiley).

53. Palaeontology. 3 hrs. lect., 3 hrs. lab.

Principles of classification; comparison of fossil and modern forms; classification and study of fossil invertebrates, vertebrates and plants; determination of type material.

Reference: Zittel, *Text-book of Palaeontology* (Macmillan); Shimer, *Introduction to the Study of Fossils* (Macmillan); various palaeontological memoirs, etc.

54. Petrology. 3 hrs. lect., 3 hrs. lab.

Introduction to petrography; optical properties of common rock-forming minerals; classification and genesis of sedimentary, igneous and metamorphic rocks; examination of rock sections.

Text-books: Winchell, *Elements of Optical Mineralogy, Part I* (Wiley); Johannsen, *Essentials for the Microscopical Determination of Rock-Forming Minerals and Rocks* (University of Chicago Press); Pirsson (Second Edition, Knopf), *Rocks and Rock Minerals* (Wiley).

Reference: Winchell, *Elements of Optical Mineralogy, Part II* (Wiley).

Prerequisite: Geology 52.

55. Stratigraphy. 3 hrs. lect., 3 hrs. lab.

Principles of stratigraphy; sedimentation; interpretation of geological maps; structure in stratified rocks; historical geology; index fossils.

Reference: Twenhofel, *Treatise on Sedimentation* (Williams and Wilkins); Grabau, *Principles of Stratigraphy* (Heath); Pirsson and Schuchert, *Text-book of Geology*, Part II (Wiley); Grabau, *Text-book of Geology* (Heath); Geological Survey Reports, Journals, etc.

Prerequisite: Geology 1.

56. Stratigraphy (Applied Science). 3 hrs. lect., 3 hrs. lab.

Principles of stratigraphy and sedimentation; historical geology; index fossils.

Reference: Twenhofel, *Treatise on Sedimentation* (Williams and Wilkins); Grabau, *Principles of Stratigraphy* (Heath); Pirsson and Schuchert, *Text-book of Geology* (Wiley); Geological Survey Reports, etc.

58. Mineral Deposits. 3 hrs. lect., 3 hrs. lab.

Classification, mode of occurrence and geological relations of various types of mineral deposits, including petroleum, natural

gas and coal. Emphasis given to Alberta mineral deposits, including clays.
Text-books: Ries, *Economic Geology* (Wiley); or W. H. Emmons, *General Economic Geology* (McGraw-Hill).
Reference: Moore, *Mineral Resources of Canada* (Irwin and Gordon); Moore, *Coal* (Wiley); Lindgren, *Mineral Deposits* (McGraw-Hill); Ries, *Clays, Occurrences, Properties and Uses* (Wiley).
Prerequisite: Geology 52.

60. Mineral Deposits (Mining and Metallurgy Option).
3 hrs. lect. first half; 3 hrs. lect., 3 hrs. lab. sec. half.
Contents of course same as Geology 58.

DEPARTMENT OF HISTORY

Junior Courses.

1. General History. 3 hrs.
Outlines of General History from the Renaissance to the present day.
Text-books: Gillespie, *A History of Europe*, 1500-1815; Robinson and Beard, *The Development of Modern Europe, Vol. II;* Robinson, *Readings in European History, Vol. II.*

2. British History. 3 hrs.
From 1485 to the present day.
Text-books: Ramsay Muir, *Short History of the British Commonwealth* and *Philip's New Historical Atlas.*
Reference readings will be assigned during the course.

3. British History. 3 hrs.
From the beginning to 1485.
Text-books: Oman, *England before the Norman Conquest;* Davis, *England under the Normans and Angevins;* Vickers, *England in the Later Middle Ages.*
Reference readings will be assigned during the course.

Senior Courses.

53. European History. 3 hrs.
From the Barbarian Invasions to the fall of the Hohenstaufen.
Text-books: Emerton, *Introduction to the Middle Ages;* Emerton, *Mediaeval Europe.*
(Not offered 1930-31.)

54. European History. 3 hrs.

From the Renaissance to the end of the Wars of Religion.

Text-books: Symonds, *Short History of the Italian Renaissance;* Froude, *Life and Letters of Erasmus;* Lindsay, *History of the Reformation;* Harrison, *William the Silent;* Gardiner, *Thirty Years' War; Cambridge Modern History* (selected chapters).

Reference readings will be assigned during the course.

56. European History. 3 hrs.

From the congress of Vienna to the present day.

Text-books: Hazen, *Europe Since* 1815; Powers, *The Things Men Fight For;* Robinson and Beard, *Readings in Modern European History, Vol. II.*

Reference books: Lichtenberger, *Germany and its Evolution in Modern Times;* Steed, *The Hapsburg Monarchy;* Fisher, *The Republican Tradition in Europe;* Cesaresco, *The Liberation of Italy;* Lowell, *Governments and Parties in Continental Europe; Cambridge Modern History* (selected chapters).

Other reference readings will be assigned during the course.

57. English Constitutional History. 3 hrs.

Text-books: Maitland, *Lectures on English Constitutional History;* Adams and Stephens, *Select Documents of English Constitutional History;* Dicey, *The Law of the Constitution.*

Reference readings will be assigned during the course.

(Not offered 1930-31.)

58. Canadian History. 3 hrs.

Text-books: Lucas, *New France; Durham's Report;* Kennedy, *The Constitution of Canada;* Burpee, L. J., *An Historical Atlas of Canada.*

Reference readings will be assigned during the course.

60. American History. 3 hrs.

The history of the United States from the beginning to the present day.

Honours and Graduate Courses.

101. English History 3 hrs.

From the accession of James I to the Restoration.

Text-books: Montague, *History of England,* 1603 *to* 1660, for the general outline; Gardiner, *History of England,* 1603 *to* 1642; *History of the Great Civil War; History of the Commonwealth*

and Protectorate; Firth, *Last Years of the Protectorate; House of Lords During the Civil War; Cromwell's Army; Cromwell;* Hutton, *Laud;* Trail, *Strafford;* Shaw, *A History of the English Church During the Civil Wars and under the Commonwealth;* Prothero, *Statues and Constitutional Documents,* 1559-1625; Gardiner, *Constitutional Documents of the Puritan Revolution,* 1625-1660; Carlyle, *Cromwell's Letters and Speeches;* Clarendon, *History of the Rebellion and Civil Wars in England; Whitelock's Memorials; Ludlow's Memorials; Pepys' Diary; The Clarke Papers.*

102. European History. 3 hrs.

From the outbreak of the French Revolution to the Congress of Vienna.

Text-books: Madelin, *The French Revolution,* and Rose or Fournier, *Napoleon I,* for the general outline; De Tocqueville, *L'Ancien Régime;* Taine, *Les Origines de la France Contemporaine;* Sorel, *L'Europe et la Révolution Francaise;* Belloc, *Danton;* Mahan, *The Influence of Sea Power on the French Revolution and Empire;* Morse Stephens, *The French Revolution;* Acton, *Lectures on the French Revolution;* Vandal, *L'Avènement de Bonaparte;* Fisher, *Napoleonic Statesmanship;* Aulard, *Political History of the French Revolution; Etudes et Leçons; The Cambridge Modern History;* Lavisse et Rambaud, *Histoire Générale;* von Sybel, *Geschichte der Revolutionszeit;* Seeley, *The Life and Times of Stein;* Oman, *A History of the Peninsular War.* Houssaye, 1814, 1815.

(Not offered 1930-31.)

DEPARTMENT OF HISTORY OF AGRICULTURE

Junior Courses.

1. History of Agriculture. 1 hr.

Study of ancient agriculture: South American, Grecian, Roman. Evolution of agriculture in England and in continental Europe.

Senior Courses.

51. History of Agriculture. 1 hr.

Study of the development of agriculture in America, particularly in Canada.

DEPARTMENT OF HORTICULTURE

Junior Courses.

2. Horticulture. 3 hrs. lect.

Vegetable Gardening.

The course is intended to cover a general knowledge of the more important vegetables, their soil and fertilizer requirements, cultural methods, harvesting and storing.
Text-book: *Vegetable Gardening*, Green. Bulletins.

Floriculture.

The growing of annual, biennial and perennial flowers for general garden purposes; the care and management of house plants; bulb culture.
Text-book: *Home Floriculture*, Rexford.

Farm Forestry.

A study of the leading forest trees with reference to their distribution and usefulness; the farm woodlot; the use of waste places.

Senior Courses.

51. Horticulture. 2 hrs. lect., 2 hrs. lab.

Propagation of Plants.

The propagation of plants by natural and artificial means; hot beds and cold frames.
Reference: *The Nursery Manual*, Bailey; Bulletins.

Fruit Gardening.

The course covers in a general way the planting, cultivating, pruning and propagating of fruits.
Texts: Bulletins, Reports.

Home Beautification.

The course provides instruction in the methods of beautifying the home surroundings; care of trees, shrubs, vines and flowers; the use of hedges and screens.
Reference: *Practical Landscape Gardening, Cridland.* Bulletins, Reports.

52. Horticulture. 2 hrs. lect., 2 hrs. lab.

Vegetable Gardening.

A study of the leading varieties of vegetables; market gardens and truck farms; vegetable forcing; problems of seed culture;

management; storage; marketing and canning; selection and breeding; judging vegetables.
Text-books: *Vegetable Growing*, Lloyd; *Vegetable Gardening*, Watts.

Floriculture.
Growing flowers for decorative and bedding purposes, construction of beds and borders; construction and management of greenhouses; breeding new varieties; growing seed.
References: *Greenhouse Management;* Taft, *Greenhouse Construction*, Wright; *Principles of Floriculture*, White.

Fruit Growing.
A study of the fundamental principles; a study of the work of breeding new and hardy varieties; breeding technique.
References: *Fundamental Principles of Fruit Growing*, Gardner, Bradford and Hooker. Bulletins, Reports.

Landscape Gardening.
General principles of laying out beds, borders, walks and drives; correct planting of flowers, shrubs, vines and trees; the prairie style of landscape gardening.
References: *Landscape Gardening*, Waugh.

Forestry.
Care of forest tree seeds; propagating and growing shrubs and trees; a study of the protective influence of windbreaks, shelter belts and forests on stock, crops, fruits and homes; forest resources; forest protection.

DEPARTMENT OF HOUSEHOLD ECONOMICS

Junior Courses.

1. **Sewing.** 4 hrs. sec. half.
Instruction in hand and machine sewing as applied to the making of simple garments.

2. **Home Nursing.** 3 hrs. lect., 3 hrs. lab. first half.
Home care of the sick; emergencies; simple bandages.

Textiles.
The composition, physical properties and manufacture of fabrics; influence of these on selection and methods of cleansing.

3. Household Management. 3 hrs. lect., 3 hrs. lab. sec. half.
Materials found in the home; principles involved in their care; the house, its equipment and furnishing. Labor-saving devices.

Foods.
An introduction to the study of foods and cookery.

31. Experimental Cookery. 2 hrs. lect., 4 hrs. lab.
An experimental study of foods.

32. Textiles. 2 hrs. lect., 2 hrs. lab. first half.
Fibres: Classification; physical and chemical structure; physical and chemical test for fibres.
Fabrics: Manufacture; adulterations; uses in the household; laundering of fabrics.

33. Household Management. 2 hrs. lect., 2 hrs. lab. sec. half.
Materials found in the home; principles involved in their care; the house, its equipment and finishings; labor-saving devices.

36. Foods and Cookery. 60 hrs.
An elementary course for nurses. The composition and nutritive value of foods. Laboratory practice in food preparation.

37. Dietetics. 16 hrs.
A course for nurses. Diet in health and disease.

Senior Courses.

51. Foods. 3 hrs. lect., 3 hrs. lab.
A study of foods: laboratory practice in food preparation.

Home Nursing.
The care of the sick in the home.

Household Management.
The care of the house, furnishings and equipment; labor-saving devices.

52. Economics of the Household. 3 hrs. lect., 3 hrs. lab.
The home as a business; the income and its expenditure; standards of living, budgets; household and personal accounts.

Foods.
Nutritive value and cost of foods; food for the family group; planning and preparation of meals; special diets.
Prerequisite: Household Economics 51.

55. Foods. 2 hrs. lect., 8 hrs. lab.

Lectures and discussion.

Typical foods—production, manufacture, composition, value in the diet. Supplementary reading will be required and used as a basis for class discussion.

Laboratory work: An experimental study of foods; the principles of cookery.

56. Economics of the Household. 2 hrs. lect.

The home as a business; the income and its expenditure; standard of living, budgets; household and personal accounts.

57. Dietetics. 2 hrs. lect., 3 hrs. lab.

The principles of nutrition applied to the feeding of individuals and the family group under normal conditions. Diets for special cases.

58. Food and Diet for the Sick. 1 hr. lect., 3 hrs. lab. sec. half.

An application of the principles of cookery to dishes for the sick and convalescent.

59. Methods. 3 hrs. lect., 3 hrs. lab. first half.

The problem of teaching Household Economics; equipment, arrangement of courses; methods of presentation of subject matter; demonstrations.

61. Foods and Cookery. 3 hrs. lect., 3 hrs. lab.

For nurses in the degree course. The composition and nutritive value of foods. The essentials of an adequate diet. Laboratory practice in food preparation.

DEPARTMENT OF MATERIA MEDICA

Junior Courses.

1. Official Drugs. 4 hrs. lect.

Inorganic and organic.

3. Official Drugs. 2 hrs. lect.

A selected group, both inorganic and organic. For Medical students.

4. 2 hrs. lect.

A course for students in Dentistry, dealing with the source, physical properties, chemical constitution and properties,

pharmacy and pharmacology of a selected list of important drugs of special significance to dental practitioners.

31. 1 hr. lect.
A special course for Nurses in training at the University Hospital.

Senior Courses.

51. Official Drugs. 4 hrs. lect.
Inorganic and organic.

52. Official and Non-Official Drugs. 4 hrs. lect.
A selected list of important non-official drugs and a more minute study of some important official drugs.
Text-books: Bruce and Dilling, *Materia Medica and Therapeutics; British Pharmacopoeia;* American Medical Association, *New and Non-official Remedies* (Students in Materia Medica 52 only).
Supplementary: Greenish, *Materia Medica;* Squire's *Companion to the British Pharmacopoeia;* Martindale, *Extra Pharmacopoeia.*

DEPARTMENT OF MATHEMATICS

Junior Courses.

†**1. General Elementary Mathematics.** 3 hrs.
The fundamental principles and methods of elementary mathematics.
Text-book: Griffin, *Introduction to Mathematical Analysis* (Houghton Mifflin); Whitehead, *Introduction to Mathematics* (Home University Library).
Required of first year students in Arts and Sciences, in Agriculture and in Architecture; the first half of this course required in First Year, School of Pharmacy.

†**2. General Elementary Mathematics.** 6 hrs.
As in Mathematics 1, with additional topics and applications.
Text-book: Griffin, *Introduction to Mathematical Analysis* (Houghton Mifflin).
Required of first year students in Engineering.

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†Students intending to take courses for which Mathematics 1 or 2 is a prerequisite and presenting credit in lieu of these courses should read at least the first three chapters of Griffin's "Introduction to Mathematical Analysis."

7. Calculus and Analytical Geometry. 3 hrs.
Calculus; related topics in Analytical Geometry and Algebra.
Text-books: Phillips, *Calculus* (Wiley); Mercer, *Exercises in the Calculus* (Cambridge).
Prerequisite: Mathematics 1.

21. Calculus, Analytical Geometry, Spherical Trigonometry. 4 hrs.
Calculus and Analytical Geometry as in Mathematics 7, with additional topics and applications; Spherical Trigonometry.
Text-books: Mercer, *Exercises in the Calculus* (Cambridge); Phillips, *Calculus* (Wiley).
Required of second year students in Engineering and Architecture.
Prerequisite: Mathematics 2.

22. Elementary Mechanics. 3 hrs. lect., 2 hrs. lab. sec. half.
The fundamental principles of elementary mechanics involved in the kinematics and dynamics of particles, and the plane motions of rigid bodies.
Text-book: Campbell, *An Introduction to Mechanics* (Houghton Mifflin).
Co-requisite: Mathematics 7 or 21.

25. Calculus and Differential Equations. 3 hrs.
Text-book: Griffin, *Mathematical Analysis, Higher Course* (Houghton Mifflin).
Prerequisite: Mathematics 21.

26. Mechanics. 2 hrs. lect., 2 hrs. lab. first half.
Text-book: Campbell, *An Introduction to Mechanics* (Houghton Mifflin).
Prerequisites: Mathematics 21 and 22.

32. Elementary Mathematics (Medicine). 3 hrs. first half.
Principles of computation; graphical methods; elementary statistical principles.
Students who have not taken Mathematics 1 or 2 should read at least the first three chapters of Griffin's *Introduction to Mathematical Analysis* before beginning Mathematics 32.
Text-books: Pearl, *Medical Biometry and Statistics* (Saunders); Burgess, *Statistics* (Houghton Mifflin).

Senior Courses.

42. Statistics. 3 hrs.
Use of statistics, collection of material and the history of statistics; frequency distributions and graphical representation

of statistical results; averages; dispersion; correlation; probability and sampling.
Text-books: Burgess, *Statistics* (Houghton Mifflin); Thurstone, *Fundamentals of Statistics* (Experimental Education Series); Chaddock, *Statistics* (Houghton Mifflin).
Prerequisite: Mathematics 1.

53. Astronomy. 3 hrs.
History of early astronomy, study of the earth; astronomical coordinates, time. The solar system, the stars, structure of the universe, origin of the solar system. Practical work; study of the constellations; discussion of articles in current journals.
Text-book: Duncan, *Astronomy* (Harper and Bros.)
Prerequisite: Mathematics 1.

55. Calculus and Differential Equations. 3 hrs.
As in Mathematics 25, with additional topics.
Prerequisite: Mathematics 7.

56. Mechanics. 3 hrs., 2 hrs. lab. first half.
As in Mathematics 26, with additional topics.
Prerequisites: Mathematics 21 and 22.

57. Advanced Calculus. 3 hrs.
Differential equations; Fourier's series; line, surface and volume integrals.
Text-book: Osgood, *Advanced Calculus* (Macmillan).
Prerequisite: Mathematics 25 or 55.

58. Advanced Mechanics. 3 hrs.
Dynamics of rigid bodies; celestial mechanics.
Prerequisite: Mathematics 56.
(Not offered 1930-31.)

59. Advanced Calculus. 3 hrs. first half.
Differential equations; Fourier's series.
Text-book: Fry, *Elementary Differential Equations* (Van Nostrand).
Required of Electrical Engineering students.
Prerequisite: Mathematics 25 or 55.

61. Theory of Finance. 3 hrs.
Interest, annuities, amortization, valuation of bonds, sinking funds and depreciation, theory of probability, life assurance.
Text-book: Kuhn and Morris, *The Mathematics of Finance* (Houghton Mifflin).
Prerequisite: Mathematics 1.

63. Graphical and Numerical Methods. 2 hrs. lect., 3 hrs. lab. sec. half.

Application of graphical methods to algebra and calculus. Nomography. Introduction to the theory of probabilities and measurements.

Text-book: Lipka, *Graphical and Numerical Methods* (Wiley).

(Not offered 1930-31.)

64. Vector Calculus. 3 hrs.

(Not offered 1930-31.)

65. Theory of Least Squares. 2 hrs. lect., 3 hrs. lab. sec. half.

Honours Courses.

101. Foundations of Mathematics. 2 hrs.

102. Theory of Functions. 2 hrs.

(Not offered 1930-31.)

103. Geometry. 2 hrs.

104. Algebra. 2 hrs.

(Not offered 1930-31.)

105. Selected Topics: Vector Calculus, Tensor Calculus. 2 hrs.

DEPARTMENT OF MEDICINE AND CLINICAL MEDICINE

51. Medicine and Clinical Medicine. 1 hr. lect., 9 hrs. clinic.

Lectures in theoretical medicine in medical building and clinics at University Hospital Out-patient Clinic. One lecture per week in systematic medicine. Lectures, clinics and demonstrations in the out-patient department and wards of the hospital. Surface markings, history taking and physical examination of patients.

52. Medicine and Clinical Medicine. 2 hrs. lect., 10½ hrs. clinic.

Lectures in theoretical medicine and clinics at University Hospital. The instruction in this class will consists of a continuation of the lectures in systematic medicine once a week in the medical building and of bedside teaching in the wards of the hospital. Special attention will be given to differential diagnosis of main symptoms during the term, and students will have an opportunity of observing the progress of cases and the effects of treatment.

53. Medicine and Clinical Medicine. 2 hrs. lect., 11 hrs. clinic.

During the final year, students will have the opportunity of acting as assistants to the internes of the hospital and will be expected to help in routine clinical laboratory work in the hospital, in writing histories and keeping up progress notes in careful detail, in routine ward-work and in out-patient clinics. Special lectures will be given during the session in the more advanced principles of general internal medicine, metabolism, cardiology, tuberculosis, neurology and paediatrics. Opportunities will be offered for the study of contagious diseases and of mental diseases. Special bed-side lectures will be given in therapeutics to illustrate the principles and application of treatment of disease. A clinical and pathological conference will be held once a week during the session. In association with the Department of Physiology, a short course on the application of physiological principles to medicine will be given.

Text-books: Medicine—Osler's *Practice of Medicine;* Taylor's *Practice of Medicine;* Stevens' *Practice of Medicine;* Conybeare's *Practice of Medicine;* Clinical Medicine—Rawling's *Surface Markings;* Wright's *Applied Physiology*; Rainey and Hutchinson's *Clinical Methods;* Todd and Sandford's *Clinical Diagnosis by Laboratory Methods.*

Reference books: French, *Differential Diagnosis of Main Symptoms;* Purves Stewart, *Diagnosis of Nervous Diseases;* Cabot's *Physical Diagnosis;* Emerson's *Physical Diagnosis;* Hare's *Diagnosis of Disease;* Blumer's *Bedside Diagnosis;* Landis, *Diseases of the Chest;* Nelson's *Loose-Leaf Living Medicine;* Osler and McCrae, *Modern Medicine;* Cecil's *Text-book of Medicine;* Tidy's *Synopsis of Medicine.*

54. Medicine. 1 hr. lect.

A lecture course for dental students as in Course 51.
Clinical instruction as required.

51. Therapeutics. 1½ hrs.

This comprises a lecture course to the students of the fifth year on general therapeutics, and in addition a course consisting of ward rounds and practical instruction in various therapeutic procedures and prescription writing.

A short course of lectures on anaesthesia will also be given, and in addition the students will be required to attend in groups from time to time for practical demonstrations.

52. Therapeutics. 2 hrs.

This is a combined lecture and clinical course at the hospital to the students of the sixth year. The essential features in the treatment of the various diseases are taken up and made as practical as possible. Each student is required to show efficiency in various therapeutic procedures and is required to give a stated number of anaesthetics under supervision.

Text-books: Bastedo, *Pharmacology and Therapeutics;* Cushny, *Pharmacology and Therapeutics;* Osborne, *Principles of Therapeutics;* Rudolf, *Medical Treatment; Handbook of Therapy; A.M.A.*

53. Therapeutics. 1 hr. lect. sec. half.

This is a course for dental students with particular reference to general anaesthesia. It will comprise, besides lectures and instruction on the general technic of giving the various anaesthetics, a course designed to give the student a working knowledge of the preliminary and after-care of patients and of conditions unfavourable for general anaesthesia.

62. Psychiatry. 1 hr. sec. half.

This course includes a study of insanity and mental deficiency.

(a) A description of major types of psychoses; their aetiology and symptomatology. Case studies.

(b) Aetiology and diagnosis of mental deficiency. Training in psycho-metric investigations.

DEPARTMENT OF MINING AND METALLURGY

Description of Courses

Two major options are offered by the Department, Mining and Metallurgy or Mining Geology. Students choosing Mining and Metallurgy option are allowed, through various electives, to emphasize any one phase of mining and metallurgy such as Coal Mining, Metal Mining, or Metallurgy.

Junior Courses.

41. Fire Assaying.

1 hr. lect. first half, 3 hrs. lab. every second week.

Furnaces, balances and other appliances used in assaying, sampling, and preparation of ores, fluxes and reagents. Assay slags and fusions. Methods used in assaying gold and silver in ores, mattes, bullion, etc. Required of all students in Mining and Metallurgy, and Chemical Engineering.

Prerequisites: Chem. 1.

Reference books: Fulton and Sharwood, *A Manual of Fire Assaying;* Bugbee, *Fire Assaying.*

Senior Courses.

57. Mine Survey School. 2 weeks at end of sec. half.

An extended trip to visit local and other mining districts of the province and adjacent areas of British Columbia. Detailed reports on all mines visited are required of each student. A number of days are spent on practical underground surveying and a closed survey of at least 10 sights made. Field notes of the survey and plotted map are required of each student. Members of the Geology Department of the University accompany the survey school ,and the areal geology of each district is studied under their supervision.

Mine Survey school trip is made every second year, and is required of both 3rd and 4th year students.

Required of all students in Mining and Metallurgy before graduation.

71. Fuels and Refractories.

2 hrs. lect., 3 hrs. lab. every second week.

Coals, washing and cleaning of coal, powdered coal, briquetting, coke and its by-products, low temperature distillation of coals, Liquid and Gaseous fuels, gas producers, Fire clay and other refractories, furnace lining preparation and construction, Refractories and the furnace products.

Pre-requisites: M.E. 41, Chem. 41.

Reference books: Bacon and Hamor, *American Fuels;* Havard, *Refractories and Furnaces.*

72. Principles of Mining. 2 hrs. lect., 3 hrs. lab. sec. half.

Prospecting, deep drilling, earth and rock excavation, drills and coal cutters, explosives and blasting, mine development, timbering, subsidence and support of excavations, mine machinery, mine drainage.

Text-book: Peele, *Mining Engineers' Handbook.*

References: Young, *Elements of Mining;* Gebhardt, *Steam Power Plant Engineering.*

73. Mining Methods. 3 hrs. lect.

Alluvial mining, open cuts, mine development, coal mining methods, ore mining methods, hoisting, haulage and power, illumination and ventilation, mine organization and management, mine valuation.

References: *Coal Miners' Pocket Book;* Young, *Working of Unstratified Mineral Deposits,* and selected reading from other sources.

74. Mine Design. 3 hrs. lab.
Drafting room work on surface and underground layout of a mine. A hypothetical problem is submitted for study and design of a coal mine or a metal mine. Detail drawings and written discussion with necessary specifications are required from each student.

75. Mine Design (Elective). 3 hrs. lab.
Conferences and drafting room work on a mining problem. It may be an enlargement and more detailed study of the problem selected in 74 or it may be a different problem as selected by the student. An elective course for students taking the Mining and Metallurgy option.

76. First Aid and Mine Rescue.
All students, before graduation, must be able to show:
(a) A certificate of having passed a course in First Aid work as prescribed by the Workmen's Compensation Board of the Province of Alberta.
(b) A certificate of having taken a course in Mine Rescue work as prescribed by the Workmen's Compensation Board of the Province of Alberta.

77. Practical Experience.
Before being granted his degree, a student must present a certificate, or certificates, showing that he has had at least 6 months practical experience in coal, metal or shale mining (in or around a mine) or in Geological field work, or such experience as shall be considered the equivalent of these.

81. Ore Dressing. 2 hrs. lect. first half, 3 hrs. lab.
Crushing and grinding, screens, specific gravity separations, filtration, flotation, ore dressing problems and flow sheets. Laboratory exercises in first term include operation of type ore dressing machines, illustrative of lecture course. In second term an ore dressing problem is studied in the laboratory and drafting room, the class working in groups of two or more students.
References: Taggart, *Handbook of Ore Dressing;* Weinig and Palmer, *The Trend of Flotation.*

82. Ore Dressing.
2 hrs. lect. first half, 3 hrs. lab. first half, 3/2 hrs. lab. sec. half.
Course is identical with 81, with somewhat less laboratory work. Required of students taking Mining Geology option.

83. Ore Dressing Laboratory (Elective). 3 hrs. lab.

Conferences and laboratory work on an Ore or Coal Dressing or Milling problem. It includes experimental work in laboratory and drafting room work on flow sheet, tipple design, mill lay-out, etc. An elective course for students taking the Mining and Metallurgy option.

84. Metallurgy. 3 hrs. lect.

General metallurgical operations, slags, mattes and other furnace products, metallurgical furnaces, metallurgy of iron and steel, copper, lead, zinc, nickel and aluminum. Hydrometallurgy of gold and silver, copper, etc.

References: Hayward, *An Outline of Metallurgical Practice;* Boylston, *Iron and Steel;* Hofmann and Hayward, *Metallurgy of Copper;* Selected reading from other sources.

85. Metallurgy. 3 hrs. lect.

General metallurgy, slags, mattes and other furnace products, metallurgy of base metals, etc. Similar to 84, but in latter part of second half session class attends lectures on electro-chemistry, Chem. 60, in place of balance of lectures in 84. For students in Chemical Engineering.

86. Metallurgy (Elective). 3 hrs. lab.

Conferences and laboratory work on a selected metallurgical problem such as slag reactions, fusions, reductions, roasting, etc. Includes the preparation of a thesis containing a summary of previously published work as well as the results of the laboratory investigations.

An elective course for students taking the Mining and Metallurgy option.

87. Metallography. 3 hrs. lab.

Microstructure and physical properties of metals and alloys, heat treatment of steel, laboratory exercises on preparation and examination of series of typical non-ferrous and ferrous alloys. Necessary lectures and demonstrations given during the laboratory period.

References: Williams and Homerburg, *Principles of Metallography;* Sauveur, *Metallography and Heat Treatment of Iron and Steel.*

88. Metallography. 3 hrs. lab. first half.

A short course of laboratory instruction covering essential features of theoretical and practical metallography. Similar to 87, for students in Chemical Engineering.

89. Metallography (Elective). 3 hrs. lab.

Conferences and laboratory work on structure and physical properties of steels or other alloys. A systematic investigation on some special alloy or group of alloys is undertaken and a thesis prepared including a summary of previous published work as well as the results of the laboratory investigations. An elective course for students taking the Mining and Metallurgy option.

DEPARTMENT OF MODERN LANGUAGES

Student who enter the University deficient in a language and who in their first year are taking an A course may be permitted, if they obtain 75%, to read the authors of the First Year course during the summer and write these off at the time of the supplemental examinations in September. No credit will be granted until the second year work in the language concerned has been successfully completed.

Similarly, students taking a first year course in a language, who obtain 85 per cent., may with the consent of the department read the authors of the second year course during the summer and write these off at the time of the supplemental examinations in September at which time second class standing must be obtained. No credit will be granted for the course unless and until a senior course in the language concerned is successfully completed in the following year. Students intending to apply for either of the privileges referred to above should notify the Registrar's office not later than May 15th.

French

A. Introductory French. 3 hrs.

Forms, elementary syntax; oral work; easy prose authors; prose composition.

Text-books: Kerr and Sonet, *French Grammar;* Aldrich and Foster, *French Reader;* Doillet, *Papassier s'en va-t-en guerre.* Attention is called to the fact that the passing mark in "A" language courses is 65%. (Compare Calendar, page 29.)

Junior Courses.

1. Authors. 3 hrs.

Modern French stories such as: Erckmann-Chatrian, *Histoire d'un Conscrit de* 1813; *L'Abbé Constantin;* About, *Le Roi des Montagnes.*

Composition and Conversation.
Text-books: Kerr and Sonet, *French Grammar, Part II.*
Dictation, composition and oral work based on the authors read.
Doillet, *Papassier s'en va-t-en guerre* (Grammaire appliquée).
Prerequisite: Matriculation French or French A.

2. Authors. 3 hrs.
Modern French stories and plays such as: Mérimée, *Colomba;* Hugo, *Les Misérables;* Maupassant, *Contes;* Coppée, *Pour la Couronne.*

Composition and Conversation.
Text-book: Vreeland and Koren, *French Composition* (Holt).
Oral work and dictation based on the authors read.
Prerequisite: Grade XII French or French 1.

34. Scientific French. 3 hrs.
Introduction to the reading of scientific texts, selected with a view to the needs of students in Applied Science. The same amount of ground will be covered as in French 1. Less emphasis, however, will be placed on composition, ond more extensive reading experience in scientific literature will be required.
Prerequisite: Matriculation French or French A.

36. Scientific French. 3 hrs.
Introduction to the reading of scientific texts, selected with a view to the needs of students in Medicine. The same amount of ground will be covered as in French 1. Less emphasis, however, will be placed on composition, and more extensive reading experience in scientific literature will be required.
Prerequisite: Matriculation French or French A.

Senior Courses.

51. (a) Eighteenth Century. 3 hrs.
Montesquieu, *De l'esprit des lois;* Le Sage, *Turcaret;* Marivaux, *Comédies;* Voltaire, *Lettres philosophiques; Candide, L'Ingénue* and other selections; *Théâtre;* Rousseau, *La Nouvelle Héloise, Le Contrat Social;* Diderot, *Extracts; The Encyclopaedists;* Beaumarchais, *Théâtre.*

(b) Composition and Oral Work.
Text-books: Goodridge, *French Composition.*

55. (a) French Canadian Literature. 3 hrs.

Origins and development.

Selected works of de Gaspé, Gérin-Lajoie, Crémazie, Fréchette, Chauveau, Marmette, Le May, Chapman, Choquette, Laure Conan, Lozeau, Rivard.

(b) Composition and Oral Work.

Text-book: Mansion, *Exercises in French Syntax.*

56. (a) Realistic and Contemporary Period. 3 hrs.

Selected works from such authors as: H. A. Taine, Gustave Flaubert, Emile Augier, G. de Maupassant, Emile Zola, Edmond Rostand, etc.; a study of the Parnassiens; Berthon, *Specimens of French Verse.*

(b) Composition and Oral Work.

Text-book: Goodridge, *French Composition.*

(Not offered in 1930-31.)

57. (a) Romantic Period. 3 hrs.

Chateaubriand, *Extraits;* Mme. de Stael, *De l'Allemagne;* Hugo, *Preface de Cromwell;* Hernani, *Notre Dame de Paris;* A. de Vigny, *Chatterton;* Gautier, *Voyage en Espagne;* A. de Musset, *Les Confessions d'un Enfant du Siècle;* A. de Vigny, *Servitude et Grandeur militaires;* Berthon, *Specimens of Modern French Verse.*

(b) Composition and Oral Work.

Text-book: Cameron, *French Composition.*

(Not offered in 1930-31.)

58. (a) French Literature in the XVII Century. 3 hrs.

Introduction to the literature and thought of the Golden Age; selections from the works of such authors as: Corneille, Racine, Descartes, Pascal, Larochefoucauld, Madame de Lafayette, Madame de Sévigné, La Fontaine, Bossuet, La Bruyère.

(b) Composition and Oral Work.

Text-book: Cameron, *French Composition.*

59. (a) Molière. 3 hrs.

Study of the works of Molière; consideration will be given to the origin of comedy in France and the development of this genre in the XVII Century. All of Molière's more

important plays will be read and discussed and an effort made to arrive at an appreciation of Molière's contribution to thought and his place in the history of literature.

(b) Composition and Oral Work.

Text-book: Mansion, *Exercises in French Syntax.*
(Not offered in 1930-31.)

Honours Courses.

101. Romanic Philology. 2 hrs.

Introduction to historical phonology; reading of old French texts.

Prerequisites: Two of the following courses: 51, 55, 56, 57, 58, 59.

102. Advanced Composition in French. 1 hr.

Text-books: Spiers, *Practical French Grammar*, *Rapid French Exercises.*

German.

A. Introductory German. 3 hrs.

This course will cover the common inflections and the elementary rules of syntax. It aims to give students a reading knowledge of easy German. Oral work and composition based on the authors. Attention is called to the fact that the passing mark in "A" language courses is 65%. (Compare Calendar, page 29.)

Junior Courses.

A-1. Introductory German. 3 hrs.

As above for A, but first year credit only in fulfilment of second language option. (Compare Calendar, page 29.)

2. Authors. 3 hrs.

Modern German short stories graded in respect to syntactical difficulties.

Composition and Oral Work.

Review of German A. Supplementary study of grammatical and syntactical forms. Dictation, composition and oral work based on the authors read.

Prerequisite: Matriculation German, German A. or German A-1.

34. Scientific German. 3 hrs.

Introduction to the reading of scientific texts to be selected with a view to the needs of students in Applied Science. The

same amount of ground will be covered as in German 2. Less emphasis, however, will be placed on composition, and more extensive reading experience in scientific literature will be required.
Prerequisite: Matriculation German or German A-1.

36. Scientific German. 3 hrs.

Introduction to the reading of scientific texts to be selected with a view to the needs of students in Medicine. The same amount of ground will be covered as in German 2. Less emphasis, however, will be placed on composition, and more extensive reading experience in scientific literature will be required.
Prerequisite: Matriculation German, German A, or German A-1.

47. 3 hrs.

(a) Reading of German prose works, historical and critical selections, sight translation, oral work, dictation.

(b) Der deutsche Aufsatz.

(c) Introduction to basic principles of Germanic Philology and German Historical Grammar.

Prerequisite: German 2.
German 47 may also be counted as a senior course.

Senior Courses.

54. German Literary Classicism. 3 hrs.

Its development and chief characteristics, with some reference to Greek and Roman antiquity and the cultural background of the eighteenth century.
Study of the masterpieces of Lessing, Goethe, and Schiller.
Prerequisite: German 47, or German 2, subject to the approval of the department.

55. Modern German Literature. 3 hrs.

Literary types in the first half of the nineteenth century with some reference to the changing social and political conditions. The course will consist of two parts to be taken concurrently and as a unit.

(a) Romantic Drama (two hours weekly), Kleist, Grillparzer, Hebbel and Ludwig.

(b) Lyric poetry or prose fiction (one hour weekly).

Prerequisite: German 54 or 47.

56. Modern German Literature. 3 hrs.

Literary types in the last half of the nineteenth century and first quarter of the twentieth century, with some reference to the revolution of 1848-49 and that of 1918-19. The course will consist of two parts to be taken concurrently and as a unit.

(a) Realistic Drama (two hours weekly), Ibsen, Hauptmann, Sudermann, Schnitzler.

(b) Prose fiction or lyric poetry (one hour weekly).

Prerequisite: German 54 or 47.

Honours Courses.

101. Germanic Philology. 2 hrs.

Middle High German, Historical German.
Prerequisite: German 47 and one other senior course.

102. German Literature. 1 hr.

Study in a special field. Discussion, reports, thesis.
Prerequisite: German 47 and one other senior course.

103. Old High German. 1 hr.

Prerequisite: German 47 and one other senior course.

104. Study in Some Early Period of German Literature. 2 hrs.

Discussion, reports, thesis.
Prerequisite: German 47 and one other senior course.

Graduate Courses.

Graduate students desiring courses in German should consult the head of the department.

Spanish.

1. Introductory Spanish. 3 hrs.

Introductory course in modern Spanish designed for students in the School of Commerce.
Text-books: Wilkins, *New Second Spanish Book;* McHale, *Commercial Spanish.*
Supplementary reading: McHale, *Un Viage á Sud America.*
Composition in Spanish, Pronunciation, Oral Exercises and Conversation.
Open to all students in Commerce as a second year option.

Advanced Spanish.

51. Authors. 3 hrs.

Perez Galdos, *Dona Perfecta;* Saloway Harrison, *México Simpático, Tierra de Encantos;* D. Carlos Navarro Y Lamarca, *Compendio de Historia Hispano-americana.*

Composition and Conversation.

Text-books: Wilkins, *New Second Spanish Book, Part II;* Carlos McHale, *Manual del Comercio*—Special study of modern Spanish idioms.

Dictation, Composition and oral work based on the authors read.
Prerequisite: Spanish 1 or its equivalent.

Comparative Literature.

51. Comparative Literature. 3 hrs.

A comparative study of the masterpieces of continental European literature from the fall of the Roman Empire till the beginning of the Renaissance.

The purpose of the course is to discuss the constituent elements, the process of assimilation and the chief characteristics of Early Western European culture, using as a basis the outstanding literary monuments of the times.

The course is designed to meet the needs of:

(1) those who are specializing in modern literature,

(2) those who wish to choose as an option in Division A a survey course in the literary culture of the pre-Renaissance period.

All the literary works will be read in English translations and will be chosen from the following: *Beowulf, The Song of Roland, The Cid, The Nibelungenlied, The Edda, The Saga of Burnt Nyal, Parzifal, Tristan and Isolde, Morte d'Arthur, The Divine Comedy*, selected lyrics and plays.

See Department of General Literature, page 177.

DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

51. Obstetrics and Gynaecology. 2 hrs. sec. half, fourth year.

A preliminary course in the mechanism of labour with demonstrations on the mannikin.

52. Obstetrics and Gynaecology. 1 hr. lect., 3 hrs. clinic.
This course will be given to fifth year Medical students and will consist of preliminary instruction, including lectures (illustrated), demonstrations and clinical instruction in the hospital.

53. Obstetrics and Gynaecology. 1 hr. lect., 5 hrs. clinic.
Practical clinical work in the wards of the hospital. Theatre clinics and ward clinics. Individual instruction in the management of labour and care of the puerperal patient. Out-patient work and a short course of clinical lectures at the hospital.

DEPARTMENT OF PATHOLOGY

51. General Pathology.
4 hrs. lect., 2 hrs. lab first half; 2 hrs. lect., 4 hrs. lab. sec. half.
A series of lectures on General Pathology.
Laboratory instruction in Pathologic Histology.

52. Clinical Microscopy. 2 hrs. lab. first half.
Routine microscopic examination for diagnosis of urine, sputum, blood, stomach contents, faeces, cerebrospinal fluid, exudates.

53. Special Pathology. 2 hrs. lect., 2 hrs. lab., session.
A series of lectures on the pathological changes in the special organs and tissues with concurrent laboratory demonstrations of gross and microscopic pathological material. Attendance at autopsies.

54. Clinical Laboratory. 4 hrs. lab., session.
The performance, under supervision, of the various clinical laboratory examinations indicated in hospital cases allotted to students.

55. Clinico-Pathological Conference. 2 hrs. session.
Demonstrations of current pathological material in conjunction with clinical departments.

56. Dental Pathology. 1 hr. lect.
A lecture course on diseases of the oral cavity and procedure in their treatment.

51. Medical Jurisprudence and Toxicology. 1 hr. lect., session.
A lecture course dealing with the criminal and civil aspect of legal medicine and with the action of poisons. Post mortem appearances will be illustrated by specimens, etc.

UNIVERSITY OF ALBERTA

DEPARTMENT OF PHARMACY

Junior Courses.

1. **General and Galenical Pharmacy.** 3 hrs. lect.
History and literature; metrology; operation and appliances; preparations, plant constituents.

2. **Prescriptions and Dispensing.** 1 hr. lect.

3. (a) **Prescriptions and Dispensing (for Students in Medicine).** 1 hr. first half.

(b) **Practical Pharmacy (for Students in Medicine).** 1 hr. sec. half.

4. **Practical Pharmacy.** 6 hrs. lab.
Concurrent with Pharmacy 1 and 2; general technique; the manufacture of galenicals; typical alkaloidal extractions and assays; dispensing of prescriptions.

31. **Drugs and Solutions.** 1 hr. lect.

Senior Courses.

51. **General and Galenical.** 3 hrs. lect.

52. **Prescriptions and Dispensing.** 1 hr. lect.

54. **Practical Pharmacy.** 6 hrs. lab.

55. **Advanced Practical Pharmacy.** 6 hrs. lab.
Chemical methods of identification; determination of purity; analysis and synthesis of medicinal substances.
Text-books: British Pharmacopoeia, London College, *Essentials of Pharmacy;* Heebner's *Synopsis.*
Supplementary: Ruddiman's *Incompatibles in Prescriptions;* Arny's *Principles of Pharmacy;* Lucas' *Practical Pharmacy;* Scoville's *The Art of Compounding;* Martindale's *Extra Pharmacopoeia;* Squire's *Companion to the B.P.*

DEPARTMENT OF PHILOSOPHY

Junior Course.

2. **Introduction to General and Social Phychology and to Logic.** 3 hrs.
This course is intended to serve as an introduction to advanced psychology and logic and to education. It will include a study of the following:

(a) The evolution of consciousness in relation to the evolution of the nervous system.

(b) The principal phenomena of mental development and an analysis of the special mental functions: sensation, perception, imagination, memory, reasoning, etc.

(c) The instincts, innate tendencies, emotions, sentiments, etc.

(d) The principal phenomena of collective behavior.

(e) The origin of language, the myth, custom, morality, law and religion.

(f) The application of psychological and logical methods to the study of the learning process and to the technique of study.

Philosophy

Senior Courses.

51. History of Philosophy. 3 hrs.

The history of thought from the ancients to the present time. In this course special attention will be given to those philosophical and scientific theories which have been most closely related to social, ethical and educational problems.

52. English Philosophy. 3 hrs.

Modern and Contemporary English Philosophy.
(Not offered 1930-31.)

53. Contemporary Philosophy.

An introduction to the problems of Contemporary Philosophy. The course will begin with a brief history of the conflict between Naturalism and Idealism which will serve as an introduction to the discussion of the present-day tendencies in Naturalism, Idealism, Animism, Vitalism, Pragmatism, Pluralism, Realism and Evolutionism.
Prerequisite: Philosophy 51.

54. Ethics and Social Morality. 3 hrs.

This course will involve:

1. The history of Ethics.
2. The theory of ethical value.
3. Ethics in its relation to Science, Morals, Art and Religion.
4. The evolution of morals.
5. A discussion of the ethical aspects of some of the most important social problems of the present day, e.g., the problems of rural life, immigration, education, mental deficiency, the professions, politics, etc.

55. Philosophy and Evolution. 3 hrs.

(1) An historical study of the theories of evolution.
(2) Evolution and the Sciences.
(3) The relation of evolution to psychology, social anthropology, ethics and education.
(4) Evolution in relation to Vitalism and Idealism.
(5) Contemporary speculative theories of evolution, e.g., Creative Evolution, Emergent Evolution, Evolutionary Naturalism.

(Not offered 1930-31.)

56. Mediaeval Philosophy. 3 hrs.

This course will involve a study of:

(1) The sources of Mediaeval Philosophy.
(2) The development of Mediaeval Philosophy with special reference to the works of Thomas Aquinas.
(3) Scholasticism and Neo-Scholasticism.

Honours Courses.

Candidates for honours will arrange their course in consultation with the Head of the Department.

101. Greek Philosophy.

(This course will be offered 1930-31.)

102. Modern Philosophy.

103-107.

One of the following: Logic, Ethics, Aesthetics, Metaphysics, the Philosophy of Religion.

108. History of Philosophical and Scientific Thought.

Graduate Courses.

Candidates for the degree of M.A. may pursue any of the above Senior or Honours Courses not already taken in their undergraduate work.

Psychology

Senior Courses.

51. General and Experimental Psychology. 3 hrs.

(a) A brief history of psychology with special reference to present-day movements.
(b) The physiological basis of reflex action, habit formation, the emotions, etc.

(c) An experimental study of sensation, perception, imagination, memory, reasoning, etc.

(d) The instincts and sentiments as factors in social behavior.

(e) The main concepts of analytic psychology.
The unconscious, conflict, repression, complex, rationalization, etc.

(f) The psychology of personality and character-formation.

(g) Intelligence and its measurement.

(h) Typical experiments in learning.

(i) The methods and principles of mental hygiene.

Pre-requisite: Philosophy 2.

52. Social Psychology and Social Anthropology. 3 hrs.

The course will include: (a) a detailed study of social influences in their relation to the development of personality; (b) a critical study of anthropological data regarding the origin of language, myth, custom, morality, law, art, and religion.

Prerequisite: Philosophy 2.

(Not offered 1930-31.)

55. Educational Psychology. 3 hrs.

(a) The fundamentals of child psychology:
Development of the nervous system; growth in general intelligence; development of mental traits; characteristics of primary-grade, intermediate-grade and adolescent children.

(b) A detailed study of the experimental psychology of the learning process.
The learning curve: the development of skill, perceptual learning, memory; transfer of training; interference.
Applications to the school subjects.

(c) Typical investigations in work and fatigue with application to classroom procedures.

(d) Individual differences and educational problems involved.

(e) Critical evaluation of mental and achievement tests.

(f) Application of statistics to experimental data.

56. Legal Psychology. 3 hrs.

1. General psychology of cognitive processes, especially perception and memory; illusions of perception; falsifications of memory; psychology of evidence; general principles of Logic; ethical aspects: theories of punishment; professional ethics.

2. Mental Deficiency and Insanity and their relation to legal responsibility; individualisation of punishment; prevention and correction of crime; juvenile delinquency.
Students will be given some practical experience in clinical work.

57. Psychology and Economic Problems. 3 hrs.

The principles of general and social psychology applied to the problems of industry, business, etc. The study will be directed along the following two lines: (a) Presuppositions of Economic Science; contributions of modern psychology to the problem of motives; aspects of organized group activities, especially economic groups; ethical problems arising out of the economic organization of society. (b) Experimental studies of work and fatigue; vocational selection; the critical study of mental tests and tests of vocational fitness; psychological factors in scientific management; creation of social values.
(Open only to students in the School of Commerce, and the School of Household Economics.
(Not offered 1930-31.)

Medical Psychology

These courses are designed solely for students in the Faculty of Medicine.

60. Introduction to Normal and Abnormal Psychology.
2 hrs. sec. half, third year Med. and fifth year Dent.

A study of reflex action, tropisms, instincts and emotions. Attention, memory, reasoning, etc.
A brief survey of the methods of measuring intelligence and personality.
The learning process.

61. Psychopathology. 1 hr. fourth year.

A study of the theories of the unconscious.
Abnormalities of sensation, memory, judgment, etc.
The mental factors of the psychoneuroses.
Multiple personality, dreams, sleep, hypnotism and suggestion.
The mental effects of drugs.

62. Psychopathology. 1 hr. first half, fifth year.

A more advanced study of abnormal psychology, and a critical examination of current theories.
Mental tests in clinical practice.

The principles and methods of mental hygiene.
It is desirable that students who intend to pursue the courses in Psychology 56 and 57 or the courses in Medical Psychology take Philosophy 2 in the second year.

Honours Courses.

Candidates for honours will arrange their courses in consultation with the Head of the Department.

101. Physiological Psychology. 3 hrs.

102. Abnormal Psychology. 3 hrs.

103. The Psychology of Religion. 3 hrs.

104. General and Experimental Psychology, Advanced Course. 3 hrs.

This course will involve a more advanced study of the facts of mental development. Present-day movements in Psychology will be examined and attention will be paid to current discussions. Experimental methods will be applied to the study of special problems. This part of the course will aim, generally, at a thorough training in the technique of psychological experiment.
Prerequisite: Psychology 51.

105. Educational Psychology, Advanced Course. 3 hrs.

(a) Psychology and treatment of exceptional children: gifted children; mental defectives; atypical children.
(b) Special abilities and disabilities.
(c) Construction of tests and scales.
(d) Standardization of tests.
(e) Training in application of educational psychology to educational research.
(f) Independent research on a topic approved by the instructor. The study will relate to the measurement of attainment or to the diagnosis of difficulties encountered in the study of one of the school subjects.

Prerequisites: Psychology 51 and Psychology 55.

106. Clinical Psychology.

The principles and methods of mental hygiene. Emphasis will be placed upon the motivation of behavior, the inheritance and acquisition of mental traits, factors in character development, mental deficiency, and insanity.
Opportunity will be provided for practical work as follows: psycho-metric measurements, social service studies, and the

treatment of behavior problems and delinquency in school and community life.

Graduate Courses.

Candidates for the M.A. degree may elect any of the above Senior or Honours courses not already taken as undergraduate work.

Education

54. History and Philosophy of Education. 3 hrs.

The study of the philosophy of education will be closely associated with a critical study of the educational classics. Attention will be given to the philosophic ideas and to special social conditions and problems of the different periods. The following specific problems will be studied:

(a) The end of education; different historical versions of the end; proximate ends; the ultimate end.

(b) The philosophic significance of the human values (Science, Art, Morality, etc.)

(c) The process of education:

1. Logical and psychological aspects.
2. Educative institutions: the school; the church; the family; voluntary associations, e.g., economic, professional, trade, cultural.

(d) A discussion of present-day educational problems.

Prerequisite: Philosophy 51.

58. Science and Practice of Teaching.* 3 hrs.

Part I: Elementary School Subjects.

A. The elementary school subjects will be considered with respect to:

1. Their relation to the other subjects and the specific ends that should be attained by the study of each subject.
2. Scientific investigations that have been reported.
3. The psychology of each subject.
4. Basic principles to be emphasized in each.

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*A minimum of two half days per week will be required for the practical work in administration, observation and practice-teaching as outlined in courses Education 58 and 59. In addition, teachers-in-training may be required to devote an entire week to practice-teaching after lectures terminate. Certain exemptions will be allowed those students who have completed Normal school training, or have had teaching experience in the elementary grades.

5. Analysis and organization of the subject-matter for teaching purposes.
6. Informal and standardized tests that may profitably be used.

B. The technique of group instruction:
Seat work, recitations, class questioning, drills and reviews; individual assignments, lesson preparation and outlines, etc.

C. Observation and practice-teaching in the elementary grades. Particular stress will be placed upon the application of the principles discussed in A and B to actual classroom practice.

Part II: Secondary School Subjects.

This section of the course deals with the secondary school subjects in the same manner that Part I treats the elementary school subjects. In connection with this course, lectures on the aims and content of the various subjects will be delivered by members of different departments of the University.

59. Educational Administration. 3 hrs.

A. A Comparative study of present day systems of administration.

Evaluation of current practices: Junior High Schools, Junior Colleges, Pre-vocational and Vocational Schools, etc. The Alberta system of administration compared and contrasted with other Canadian, United States and Continental systems.

B. Administration of Schools in Alberta.

1. Management of pupils: mental and physical characteristics of various age-groups; grading and classification; supervised study; discipline; athletics; extra-curricular activities; school census; attendance and retardation; etc.
2. Supervision of staff: delegation of duties; improving efficiency through supervision; teachers' meetings; etc.
3. Supervision of instruction: the use of tests in classification and guidance of pupils and in diagnosis of difficulties encountered in school studies; remedial instruction; time-tables; examinations; etc.
4. The school plant: equipment; supplies; selection of library; heating and ventilation; etc.
5. General topics: office organization; school records; reports to parents, school boards, and Department of Education; educational hygiene; school law; professional ethics; recent school surveys; etc.

C. Laboratory Periods in the Schools.

Practice in giving, scoring, tabulating and interpreting the data of mental and educational tests; grading of buildings, grounds and equipment; etc.

101. History of Educational Administration.

A. An historical study of educational administration in various countries.

Topics such as: devolution of authority, educational objectives, curricula, teacher-training, compulsory education, inspection and supervision, finance, hygiene, provision for adolescent education.

B. As in Education 59 (A).

DEPARTMENTS OF PHYSICS

Junior Courses.

1. General Elementary Physics. 3 hrs. lect., 2 hrs. lab.

Including the more important principles of mechanics, properties of matter, heat, sound, light, magnetism and electricity. Illustrated by experiments.

Text-book: Stead, *Elementary Physics.*

For first or second year Arts and Sciences, pre-Engineering year, first year Household Economics and first year Agriculture.

11. General Elementary Physics. 3 hrs. lect., 2 hrs. lab.

The same range as in Course 1, but with special emphasis on the medical aspects of the subject.

Text-book: Stead, *Elementary Physics.*

For students of first year Medicine, Dentistry and Pharmacy.

3. Properties of Matter, Heat, Light and Sound.

3 hrs. lect., 2 hrs. lab.

Illustrated by experiments.

Text-books: Duncan & Starling, *Text-book of Physics;* Allen & Moore, *Text-book of Practical Physics.*

For first year students in Applied Science.

42. Introduction to Light and Wave Theory. 3 hrs. lect., 2 hrs. lab.

Elementary optics and wave theory introductory to the work of senior and honour courses. Illustrated by experiments.

For students of Arts and Sciences who have passed Physics 1 or its equivalent.

Text-book: Edser's *Light for Students.*

46. Magnetism and Electricity. 3 hrs. lect., 2 hrs. lab.

A course prerequisite to more advanced courses in electrical physics and in electrical engineering. Illustrated by experiments.

For second year engineering students and students of Arts and Sciences who have passed Physics 1 or its equivalent.

Text-books: Brooks & Poyzer, *Magnetism and Electricity;* Allen & Moore, *Text-book of Practical Physics.*

48. General Physics. 3 hrs. lect., 2 hrs. lab.

More advanced than Physics 1.

Phenomena of physics explicable on the molecular theory; elementary modern electrical aspects of molecular theory in physics and in chemistry. Illustrated by experiments.

For students of Arts and Sciences who have passed Physics 1 or its equivalent.

Text-book: Knowlton, *Physics for College Students.*

(Not offered 1930-31.)

Senior Courses.

Physics 42, 46 and 48 may be taken as ordinary senior courses in Arts, but may not be regarded as senior courses for honours in physics.

51. Physical Optics. 3 hrs. lect., 3 hrs. lab.

A course on wave theory, dealing especially with interference, diffraction, polarisation, double refraction, spectroscopy, the Zeeman effect.

Reference books: Houston, *Treatise on Light;* Preston, *Theory of Light;* Wood, *Physical Optics.*

53. Electrical Physics. 2 hrs. lect., 3 hrs. lab.

Direct and alternating current circuits, electrical and magnetic testing, precision electrical measurements, electric units and their dimensions.

For third year students in Electrical Engineering and senior students in Arts.

Text-books: Starling, *Electricity and Magnetism;* Thornton, *Electrical Transmission of Energy.*

54. Introduction to the Electron Theory. 3 hrs. lect.

This course deals with the passage of electricity through gases, ionisation by collision, cathode rays, X-rays, photo-electricity, thermions, radio-activity, positive ray analysis, isotopes, atomic structure.

For senior students in Arts and Sciences.

Text-book: *Ions, Electrons, and Ionising Radiations*, Crowther.
Reference books: *The Electron*, Millikan; *Electricity in Gases*, Townsend; *Ionisation of Gases by Collisions*, Townsend; *X-rays and Crystal Structure*, Bragg; *Radio-activity*, Rutherford; *Studies in Radioactivity*, Bragg; *Photo-electricity*, Hughes; *X-Rays*, Kaye; *Rays of Positive Electricity*, Thomson; *Isotopes*, Aston.

55. Elements of Electron Theory. 3 hrs. lect. first half.
A course on modern electrical theory emphasizing especially the nature and properties of ions in gases, ionisation by collision, sparking potentials, photo-electricity, X-rays, electrical conductivity of metals, and thermionic emission.
For fourth year students in Electrical Engineering.
Text-book: *Ions, Electrons, Ionising Radiations*, Crowther.

57. Introduction to Mathematical Physics. 3 hrs. lect.
Theory of attraction and potential as applied to gravitation, magnetism and electrostatics; elements of hydrodynamics; Fourier's series; the conduction of heat; wave theory.
Text-book: *Introduction to Mathematical Physics*, Houston.
Reference books: *Newtonian Potential Function*, Pierce; *Mathematical Theory of Heat Conduction*, Ingersoll and Zobel; *Theory of Heat*, Preston; *Electricity and Magnetism*, Jeans.

Honours Courses.
By arrangement with the department honours courses may be chosen from the senior courses already enumerated or those mentioned below.

101. Modern Atomic Physics Theory. 3 hrs. lect., 6 hrs. lab.

103. Physics of Vibrations and Wave Theory. 3 hrs. lect.

DEPARTMENT OF PHYSIOLOGY AND PHARMACOLOGY

31. 2 hrs. lect., 2 hrs. lab.
In this course, which extends through twelve weeks, the essentials of physiology are studied by means of lectures, demonstrations and practical work. It is designed to meet the needs of those who are taking the course in Nursing leading to the Diploma.

41. 3 hrs. lect., 3 hrs. lab.
The same as Psysiology 71.
For students who are taking the course in Nursing leading to the degree of B.Sc.

PHYSIOLOGY AND PHARMACOLOGY

51. 3 hrs. lect., 3 hrs. lab.

The same as Physiology 71.
For students of the third year in Dentistry.

52. 3 hrs. lect., first half.

A lecture course on the central nervous system.
For students of the fourth year in Dentistry.

60. 3 hrs. lect.

A lecture course on the physiology of the blood, circulation, digestion, absorption, assimilation, excretion, respiration and animal heat.
For students of Household Economics.

61. 3 hrs. lect., 3 hrs. lab.

The same as Physiology 71.
Open to students of the senior years in Arts and Sciences.
Prerequisites: Chemistry 1 and Chemistry 52.

62. 3 hrs. lect., 3 hrs. lab.

The same as Psysiology 72.
For students who are taking Honours in Psychology.

71. 3 hrs. lect., 3 hrs. lab.

This course comprises a detailed study of the physiological phenomena of the blood, circulation, digestion, absorption, assimilation, excretion, respiration and animal heat.
For students of the third year in Medicine.

72. 3 hrs. lect., 3 hrs. lab.

The study of the central nervous system, muscle, nerve, special senses, secretion (external and internal), reproduction and heredity constitutes this course.
For students of the fourth year in Medicine.

73. 1 hr. clinic, half year.

A clinical course in physiology given in conjunction with Medicine and Clinical Medicine 53.
For students of the sixth year in Medicine.

Text-books for all courses: Starling, Burton-Opitz, Stewart, Halliburton, Howell.
Reference books: Luciani, *Human Physiology;* Macleod, *Physiology and Biochemistry in Modern Medicine;* Wiggers, *The Circulation in Health and Disease;* Sherrington, *The Integrative*

Action of the Nervous System; Gaskell, *The Involuntary Nervous System.*

Pharmacology

70. 3 hrs. lab.

A laboratory course supplemented by laboratory talks and conferences. This course is co-ordinated with Materia Medica 4. For students of the fourth year in Dentistry.

72. 2 hrs. lect., 3 hrs. lab.

A course on the physiological action of drugs selected for their pharmacological and clinical importance.
For students of the fourth year in Medicine.

Text-book for both courses: Sollmann, *A Manual of Pharmacology;* Bastedo, *Materia Medica, Pharmacology and Therapeutics.*
Reference books: Sollmann and Hanzlik, *Experimental Pharmacology;* Jackson, *Experimental Pharmacology;* Cushny, *Pharmacology and Therapeutics.*

Research

The laboratory is always open to those who are qualified to undertake investigations in the domain of physiology and pharmacology. For particulars apply to the head of the department.

DEPARTMENT OF POLITICAL ECONOMY

1. Principles of Economics. 3 hrs.

A general introduction to the study of the principles underlying the wealth-getting and wealth-using activities of man. In this course there will be two lectures a week and the class will be divided into discussion groups for the third hour.

10. Economic Geography. 3 hrs. sec. half.

A study of production and trade as influenced by geographic conditions. The geography of the more important commercial products; continental and oceanic trade routes; great commercial centres.

Senior Courses.

51. Principles of Political Economy. 3 hrs.

A survey of leading principles with special reference to engineering problems. Open only to students in Applied Science.

POLITICAL ECONOMY

52. Institutional Management and Social Economics. 2 hrs.
A survey of the principles of institutional management followed by a study of the economics of social problems. Open to students in Nursing.

61. Economic Principles and Problems. 3 hrs.
An advanced course in economic theory with special reference to important economic problems and controversial issues.
Prerequisite: Course 1, 51 or 70.

63. Political Science. 3 hrs.
A study of the organization and government of men in political and social communities, including a historical survey of political thought, and discussion of such important problems as: the theory of sovereignty, the future of democracy, the party system, the power of the press, parliamentary government, internationalism and world peace, modern proposals for constitutional changes.

64. Trade and Transportation. 3 hrs.
(a) International Trade, economic protectionism, the evolution of commercial policies, tariffs.
(b) The principles of transportation with special reference to Canadian problems.
Prerequisite: Course 1, 51 or 70.
(Not offered 1930-31.)

65. Labor Problems.
A study of the problems arising out of the relations between wage-earners and their employers. The rise of the modern industrial system. The development of protective labor legislation. The International Labor Office. The theory of wages. Scientific management. The organization and activities of trade unions. Employers' associations. Industrial strife and industrial goodwill.
(Not offered 1930-31.)

66. Currency, Banking and Finance. 3 hrs.
The principles of money, monetary systems, commercial and investment banking, finance, rural credits.
Prerequisite: Course 1, 51 or 70.

67. Public Finance and Taxation. 3 hrs.
Public expenditures, budgets, and budgetary legislation, public domains and public industries, taxation, public credit, provincial and local taxation.

Prerequisite: Course 1, 51 or 70.
(Not offered 1930-31.)

68. Economics of Agriculture. 3 hrs.
The role of agriculture in economic life. A survey of the resources, the organization and the economic problems of agriculture.
Prerequisite: Course 1 or 51.
(Not offered 1930-31.)

69. Corporation Finance. 2 hrs. sec. half.
The nature of corporations, their promotion, capitalization, financing, reorganization; holding companies; franchises; the taxation of corporations.
Prerequisite: Course 1, 51 or 70.
(Not offered 1930-31.)

70. Elements of Political Economy. 2 hrs.
A general course with special emphasis upon agricultural problems.
Open only to students registered in the Faculty of Agriculture.

72. Agricultural Marketing. 2 hrs.
Economic basis of marketing and price determination; assembling, grading, standardizing, processing, storing of farm products, financing crop movements; speculation, transportation routes and rates; co-operative marketing and pools; government authority in relation to marketing.
Prerequisite: Course 70.

73. Principles of Marketing. 3 hrs. first half.
Functions and mechanisms of marketing; primary markets, manufacturers, wholesale and retail agencies; organization and financing of export trade; co-operative marketing; price determination and policy.
(Not offered 1930-31.)

Honours and Graduate Courses.

101. History of Economic Theory. 3 hrs.
From the Mercantilists to the end of the 19th century.
(Not offered 1930-31.)

102. Modern Economic Theories. 3 hrs.
A critical examination of modern economic thought.

103. Economic Programmes.

A continuation of Political Economy 102, with special reference to particular problems.

120-130.

Special graduate courses which may be arranged in consultation with the head of the department.

DEPARTMENT OF POULTRY HUSBANDRY

Junior Course.

1. Poultry Husbandry. 3 hrs. lect.-lab. per week, first half.

General course covering classification and description of breeds; fattening, killing and dressing poultry for market; candling and grading eggs; housing, sanitation and disease; poultry feeds, compounding of rations, feeding methods; incubation and brooding of chicks.

Text-book: *Poultry Production*, Lippincott, 1927 edition (Lea & Febisher.)

Senior Courses.

51. Poultry Husbandry. 3 hrs. lect.-lab. first half.

(a) Study of the anatomy and physiology of the fowl; diagnosis and treatment of poultry diseases.

(b) Pedigree breeding and record keeping; costs and profits; poultry farm management.

DEPARTMENT OF SOILS

Senior Courses.

51. Soil Physics and Management. 2 hrs. lect., 3 hrs. lab. first half.

Origin of soil material; formation; classification, constituents, organic matter; moisture and its control; aeration; temperature; erosion; tillage of dry and irrigated lands; rotations.

Text-book: *Soil Physics and Management*, Moshier and Gustafson.

52. Soil Fertility and Fertilizers. 2 hrs. lect., 3 hrs. lab. sec. half.

Yields as affected by fertility, rotations and different systems of farming; composition and management of Canadian soils; composition and value of manures and fertilizers.

Text-book: *Soil Fertility and Permanent Agriculture*, Hopkins.

53. Advanced Fertility. 2 hrs. lect., 3 hrs. lab. first half.
Special work with soils in which the student is interested; pot culture experiments; systematic study of investigational work from various experiment stations.

54. Soil Bacteriology. 2 hrs. lect., 3 hrs. lab. sec. half.
Soil micro-organisms and factors influencing their activity; decomposition of crop residues and manures; nitrogen fixation and preservation; effect on insoluble plant foods.

55. Irrigation and Drainage. 2 hrs. lect., sec. half.
Character of water used for irrigation; time and amount of application; measurement and distribution; duty; removal of excess; control of alkali.

Graduate Courses.

130. Plant Food Supplies. 1 hr. lect.
Critical study of the world's plant food supplies.

131. Seminar in Soils. 1 hr. lect.
Reports by students and instructors on the literature of selected topics, with class discussions. Required of all graduate students in Soils.

Graduate students who have had the necessary training may take work leading to the degree of M.Sc. Graduate courses in Soils, related courses in other departments, and a research project in field of work covered by the list of Soils courses may be selected in consultation with the student's adviser.

DEPARTMENT OF SURGERY AND CLINICAL SURGERY

Text Books.

General Surgery: Rose and Carless, *Principles and Practice;* Thomson and Miles, *Manual of Surgery;* Gask and Wilson, *Surgery;* Romanis and Nutchinson, *Science and Practice of Surgery.*

Minor Surgery: Foote, *Minor Surgery;* Cristopher, *Minor Surgery.*

Fractures: Scudder, *Treatment of Fractures;* Wilson and Cochrane, *Fracture and Dislocations;* Hey-Groves, *Modern Treatment of Fractures.*

Surgical Anatomy: Treves, *Surgical Applied Anatomy;* Davis, *Surgical Applied Anatomy.*

Operative Surgery: Carsen, *Modern Operations of Surgery;* Schmieden, *Operations;* Moynihon, *Abdominal Operations.*

SURGERY

51. Surgery and Clinical Surgery (Fourth Year).

1 hr. lect., 7 hrs. clinic.

Lectures: A course of didactic lectures covering the General Principles of Surgery is given during the fourth year.

Clinical Instruction: All the clinical instruction is given at the University Hospital and Out-Door Clinic, consisting of a definite course of instruction covering land marks and surface markings. A series of demonstrations of gross pathology and pathological chemistry necessary to clinical investigation is given to students of this year in small groups.

Will take up for study: inflammation, suppuration gangrene abscesses, various types of wounds, haemorrhage, infections, sepsis, various types of antiseptics used in surgery, preparation of dressings and surgical material, surgical technique of surgeon and patient, simple fractures and their treatment, sprains, bandaging and use of splints.

52. Surgery and Clinical Surgery (Fifth Year).

1 hr. lect., 6 hrs. clinic.

Lectures: A series of didactic lectures covering Regional Surgery is given during the session.

Clinical Instruction: The students are assigned, in small groups, to various clinical teachers for instruction at the bedside. Cases are assigned to students for examination, and each student is taught to make a complete physical examination of surgical cases and to record his findings and make a tentative diagnosis and to learn the appropriate treatment. The ward classes will make a study of the cases in the public wards and the subjects of the clinics shall at all times be governed by the cases available for practical demonstration. During the session an attempt will be made to familiarize the students with the important surgical diseases and injuries.

Once a week, in conjunction with the 6th year, a clinical pathological conference is conducted by the pathological department and the surgical department, conjointly, when the pathological material sent from the hospital during the preceding week will be discussed together with the clinical aspect of the cases under discussion.

53. Surgery and Clinical Surgery (Sixth Year). 7 hrs. clinic.

The sixth or final year is entirely a hospital year.

The students in this year are assigned to the surgical services at the University, the Royal Alexandra, the Edmonton General

and the Misericordia Hospitals (about one-half the class is accommodated at the University Hospital).

During the half-year the student devotes his time entirely to the study of surgery, and at whatever hospital he is assigned to shall perform the following duties:

To act as assistant to the House Surgeon and to carry out his instructions at all times.

To take the history of each patient, allotted to him, within 24 hours of his admission to the ward and to record the physical examination and record the necessary laboratory work.

He shall do whatever ward dressings that are assigned him by the House Surgeon and shall act as second assistant on all the operations performed on the patients allotted to him.

To attend the clinics given the fifth year on his service and to assist the clinician by preparing the material for each clinic.

He shall during his term of service, when directed to assist in giving and to give anaesthetics to patients assigned to him under the supervision of the anaesthetist.

54. Surgery. 1 hr. lect.

A lecture course the same as in Course 51.

Clinical instruction as required for dental students.

51. Ophthalmology. 1 hr. lect.

A preliminary course consisting of lectures and demonstrations with instruction in the use of instruments and appliances, and out-door clinics.

51. Rhino-Oto-Laryngology. 1 hr. lect.

A preliminary course consisting of lectures and demonstrations with instruction in the use of instruments and appliances, and out-door clinics.

52. Ophthalmology. 1 hr. first half.

Clinical work in the hospital.

52. Rhino-Oto-Laryngology. 1 hr. sec. half.

Clinical work at the hospital.

Text-books: *Ophthalmology*, May; reference, de Schweinitz, Fuchs. *Rhino-Oto-Laryngology*, Laurens, Parker and Colledge; reference, Tilly, MacKenzie.

51. Radiology. 1 hr. lect. first half.

Lectures on physics and technique of Radiology. Laboratory demonstrations on Fluoroscopic examinations of patients, and interpretation of Radiograms.

55. Surgical Anatomy (Fourth Year). 2 hrs. lect.

Throughout the session will include, with lectures, demonstrations by means of dissections and moist specimens.

56. Surgical Anatomy (Fifth Year). 2 hrs. lect.

Throughout the session an advanced course is given at the University Hospital teaching the clincial application of anatomy to surgery.

***Orthopaedic Surgery.**

The course in orthopaedic surgery extends over half of the fifth year and half of the sixth year. It is designed to give the student an outline of the commoner orthopaedic conditions with their diagnosis and treatment.
The course in the fifth year consists of one lecture per week during half the session with demonstration of cases.
The sixth year course consists of theatre clinics or visits on the wards one hour per week for half the session.

***Anaesthesia.**

Lectures in fifth year.
Brief review of history pharmacology and physiology of anaesthetics. Description of different agents in and methods of general, local and regional anaesthesia.
Signs of danger in anaesthesia; methods of control; choice of anaesthetics for different operations and patients.

Sixth Year.
Practical demonstration and supervision of administration by members of the sixth year at the different hospitals.

***Urology.**

Lectures in the Fifth Year covering the main principles of Urology. 1 hr.
Bedside and Operative Clinics in the sixth year in hospital.

Attendance at Out-Door Clinic. 1 hr.

Text-books: Kayes, Thompson Walker, Young.

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*These courses are included in Surgery and Clinical Surgery 52, and Surgery and Clinical Surgery 53.

UNIVERSITY OF ALBERTA

TOXICOLOGY

Junior Course.

1. General. 1 hr. sec. half.

The nature and properties of poisons, their detection, and the application of "first aid" treatment.

Senior Course.

61. General. 1 hr. sec. half.

Identical with Course 1.

DEPARTMENT OF VETERINARY SCIENCE

Junior Courses.

1. (a) Elementary Agricultural Veterinary Science. 1 hr. lect.

Anatomy, physiology, materia medica.

(b) Agricultural Veterinary Science. 1 hr. lect.

Medicine and surgery, parasitology, obstetrics.

Senior Course.

51. Advanced Agricultural Veterinary Science.

DEPARTMENT OF ZOOLOGY

Junior Courses.

1. Animal Biology (Arts). 3 hrs. lect., 3 hrs. lab.

Animal organization; comparative morphology and anatomy; essentials of histology; principal phenomena of distribution, behaviour, ecology, development and reproduction; evolution, variation and heredity.

Text-book: Haldane and Huxley, *Animal Biology;* Walter, *Biology of the Vertebrates.*

Reference: Parker and Haswell.

2. General Elementary Zoology (Medicine). 3 hrs. lect., 3 hrs. lab.

Frog, rabbit, and other types; dog's skull, cat's brain, hog's heart; parasitology; histology; heredity, variation and evolution.

Text-book: O'Donoghue, 2nd ed.

Reference: Parker and Haswell, Holmes.

3. Elementary Embryology (Second Year Medicine).
2 hrs. lect., 3 hrs. lab. first half.

Embryology of amphioxus, frog and chick to 60 hours; other selected types.

Text-book: Patten's *Chick.*

Reference: Kellicott's *Chordate Development* and *General Embryology*, or McEwen's *Vertebrate Embryology;* Lillie, Wilder.

4. Elementary Comparative Anatomy (Agriculture).
3 hrs. lect., 3 hrs. lab. sec. half.

Parasitic invertebrates; *Hydra;* earthworn; comparative vertebrate anatomy with special reference to mammals.

Text-book: Shipley and MacBride, *Zoology.*

Reference: Borradaile; Parker and Haswell.

Senior Courses.

51. Comparative Anatomy of Chordates. 3 hrs. lect., 3 hrs. lab.

The course will include a certain amount of embryology and histology. The following types will be dissected in the laboratory: Balanoglossus, Ascidian, lamprey, jackfish, Necturus, garter snake, pigeon, cat.

Text-books: Parker and Haswell, *Text-book of Zoology;* Jennings, *The Cat.*

Prerequisite: Zoology 1.

(To be given 1931-32.)

52. Comparative Anatomy of Invertebrates. 3 hrs. lect., 3 hrs. lab.

Larval forms and the development of certain types will be particularly dealt with. The following types will be studied in the laboratory: Aurelia, Fasciola, Ascaris, Nereis, Homarus, Triton, Sepia, Asterias, while others may be included as available.

Text-book: Parker and Haswell, *Text-book of Zoology.*

Prerequisite: Zoology 1.

(To be given 1930-31.)

UNIVERSITY OF ALBERTA

DEPARTMENT OF EXTENSION

This department is organized to help those unable to attend regular University classes, and carries on work along the following lines:

Extension Lectures

A limited number of extension lectures on various subjects may be arranged in conference with the Director of the Department of Extension.

Division of Debating and Public Discussion

Outlines are published for the assistance of debaters, and material on subjects of debates is loaned by the Department. This material is available to all residents of Alberta, the only charge being the payment of postage both ways. To applicants from points outside of the Province a charge of fifty cents per package is made.

Material for debate has been prepared on the following subjects: Canadian Navy; Capital Punishment; Closed versus Open Shop; Co-education; Commission Government of Cities; Compulsory Military Service and Training in Canada; Compulsory Social Insurance; Consolidated Rural Schools; Co-operative Banking; Co-operative Trading; Direct Legislation; Educational Qualification for Suffrage; Gary School Plan; Government Ownership of Railroads; Heredity versus Environment; Imperial Federation, League of Nations; Literary Test for Immigrants; Military Training in Schools; Minimum Wage; Munroe Doctrine; Mothers' Pensions; Motion Picture in Education, Place of; Municipal Ownership of Public Utilities; Parliamentary versus Presidential Form of Government; Peace versus War; Platform versus Press; Prohibition; Proportional Representation; Protection versus Free Trade; Public Defender; Reciprocity with the United States; Rural versus City Life; Simplified Spelling; Single Tax; Socialism; Tractor versus Horse; Trade Unions; Woman Suffrage; Canadian Tariff; School Curriculum; Limitation of Inheritance; Free Municipal Hospitals; National School System; Control of Natural Resources; Motion Pictures; Chinese and Japanese Immigration; Labor Strikes; Newspapers; Novel Reading; Vocational versus Liberal Education; Departmental Store (Mail Order Business); Smoking; Co-operative Laundries and Kitchens; Agricultural Immigration; Coal versus Gas; Local Banks versus Branch Banks; Provincial Bank; National Land Bank; Construction Great Lakes-St. Lawrence Ship Canal; Export Duty on Pulpwood; Alberta Wheat Pool; Automobiles; Radio versus Newspapers; School Examinations; Settlement of

Industrial Disputes by Arbitration Rather Than by Court of Law; Universal Peace Through Arbitration; Radio Instruction in the Schools; Education vs. Reduction in Armaments; Instalment Plan of Buying.

A manual of instruction for debaters is also available.

Division of Travelling Libraries

Travelling libraries are lent to communities where no public libraries exist. For this purpose over 20,000 volumes are at present available. During the present session over two hundred libraries have been in circulation. A special feature of this service is the open shelf list from which students may borrow volumes. A printed catalogue is supplied to would-be borrowers for twenty-five cents.

The Department also offers assistance to those who wish to do systematic reading in a particular field, literature, science, history, politics, sociology, etc. With the help of the members of the University Faculty outlines on the desired subject will be prepared and reference books will be furnished from the open shelf library.

Division of Visual Instruction

This division offers:

A—Lantern Slide Service.

The Department has a lantern slide library of several hundred sets of lantern slides at the University and also a Branch Depot in Calgary. The main library has been in existence many years, but the Branch is of more recent date and was opened at the Y.M.C.A. in the fall of 1927 at the request of many patrons in Calgary and the south. Slides are supplied to schools, churches and organizations carrying on educational work, most of the sets being accompanied by lecture material. Payment of express charges and the making good of loss or breakage is the only expense for this service. A catalogue of the sets in both the main and branch libraries with terms of service may be had on application. A very complete photographic plant for the making of slides is operated. Societies and lecturers may have their own material prepared in the form of lantern slides at moderate cost.

B—Lantern Service.

A number of lantern outfits are available for loaning at a nominal rental, equipped for use where electric light is available and otherwise. New lanterns are imported free of customs duty and supplied

to schools, churches, and other organizations on very satisfactory terms.

C—Moving Picture Service.

An educational film exchange is operated by the Department, 1,000 reels on a variety of subjects being available. These are loaned on a rental basis sufficient to take care of handling and depreciation. The films are all non-inflammable and are used in a special machine complying with government and insurance requirements. Full particulars regarding films and machines will be supplied on application.

Division of Radio

The University of Alberta owns and operates its own radio broadcasting station under the call letters assigned to it by the Dominion Government, CKUA. The station is of 500 watts power and operates on a wave length of 517 meters, frequency 580 k.c. The principal programs are presented on Mondays and Fridays, consisting of lectures, music, and other items. Special broadcasts are arranged for children, young people, homemakers and farmers. A schedule of hours and programs is available.

Records

A library of Gramophone Records has been added to the services of the Department. Most of these records are published by the International Education Society, and are for the purpose of establishing an interchange of selected lectures and lecture courses given by scholars of all nations. These recordings enable people far away from Educational centres to listen to great teachers and to hear the voices of some of our leading actors, statesmen, and men of letters. A catalogue of the records will be furnished on request.

Full particulars of these services will be furnished on application to the Department of Extension, University of Alberta, Edmonton.

INDUSTRIAL LABORATORIES

The Department of Industrial Laboratories operates fully equipped Chemical and Physical laboratories for carrying out analyses and tests on all materials. Industrial investigations can be undertaken.

For complete information and schedule of fees apply to the Director.

DEPARTMENT OF CORRESPONDENCE COURSES

This Department endeavours to provide tutorial instruction for those unable, for the time being, to join organized classes. Designed originally to enable Second Class teachers to advance to First Class

standing without relinquishing their positions, the courses soon made their appeal to a much wider constituency. They prove particularly attractive and serviceable to:

(a) Those who aspire to a higher grade of teachers' certificates;

(b) Those who have obtained Grade XII standing with one or more conditions;

(c) Those who are contemplating University courses and who by completing certain Grade XII courses will be eligible to enter as undergraduates of the Second Year in Arts;

(d) Those who are matriculants and who contemplate entering a Faculty in which an option is given between Grade XII and First Year in Arts;

(e) Those who are deficient in languages for Junior or Senior Matriculation;

(f) Those who, through securing Grade XII standing, wish to progress towards University degrees by availing themselves of the advantages offered by the University Summer Session as explained elsewhere;

(g) Those whose education has, for some reason, been temporarily interrupted;

(h) Those who, while engaged in their various occupations, wish to pursue academic courses either for their mental stimulus or for their monetary value.

Teachers who contemplate a University course should endeavour to remove any existing conditions or deficiencies for Junior or Senior Matriculation as the case may be. This is particularly desirable with respect to the languages, and special facilities are provided to meet such cases. Those who have not had the equivalent of the first High School unit in French or Latin may take the Beginners' Courses at the Summer Session and follow these up by Correspondence Courses covering the language requirements for Grades XI and XII.

Students preparing for the Grade XII examination, whether in High Schools or through correspondence tuition, may subsequently wish to have the standing so obtained applied as credits for First Year in Arts. They are advised, in anticipation of this, to make such a selection of Grade XII options as will prove of greatest value in this direction.

Prospective students are invited to write to the Director, Department of Correspondence Courses, from whom further particulars and registration forms may be obtained.

DEPARTMENT OF PHYSICAL EDUCATION

The aim of the department is to contribute to the health of the student body by encouraging participation in all forms of athletic games, and by conducting classes in physical training suited to the needs of the various groups of students.

Physical Education is compulsory for all freshmen and freshsophomore students. All such students must register with the department of Physical Education.

Exemption from Physical Education will be granted to students who (1) are married, (2) are twenty-five years of age, (3) have a Normal School certificate for Physical Education, (4) play regularly on two university senior teams. Exemption from Physical Education will also be granted to students who play on university intermediate and interfaculty teams, but such exemption is only for the season during which the particular sport lasts. Application for exemption must be made to the Director of Physical Education.

CANADIAN OFFICERS TRAINING CORPS

University of Alberta Contingent

The Canadian Officers Training Corps consists of Contingents at most of the Canadian Universities. Each Contingent is a unit of the Active Militia, being governed by special regulations under which it cannot be called out for active service as a unit. The Contingent is not officially a part of the University, but the President of the Military Committee and the senior officers of the Corps must be members of the University staff.

The Corps provides an opportunity for those students who are interested in military training to qualify as officers during their University course. Two certificates of Proficiency, "A" and "B", are obtainable by members of the Corps. The standard required for certificate "A" is that of the commander of a platoon in an infantry company. To obtain this certificate, a member must complete two years efficient service in the Corps and pass the prescribed examinations. Members who accept a commission in the Active Militia are exempted by this certificate from further examination for the rank of lieutenant. Certificate "A" is prerequisite to Certificate "B", which in a similar manner qualifies for the rank of Captain. (See page 36 for scholarships awarded.)

The time required is about three hours per week. Enlishment is purely voluntary, but the membership of the Contingent is limited.

Affiliated Institutions

ST. STEPHEN'S COLLEGE

St. Stephen's College is the Divinity School of the United Church of Canada in the Province of Alberta.

Courses of Study

Three Courses of Study are open to Candidates:

1. "The attainment of a B.A. degree, including Greek, to be followed by three years in the study of Theology, is strongly recommended by the Church. Before ordination every candidate shall spend twelve months in preaching and pastoral work."

or

2. "Three years, at least, in Arts, followed by three years in Theology. Before ordination every candidate shall spend twelve months in preaching and pastoral work."

or

3. "Two years' preaching under the supervision of a Presbytery, with appropriate studies, and four years of a mixed Arts and Theological course in College."

Note.—All courses must start from University Matriculation.

Suggested Classes in Arts for Students Selecting Course No. 2.

(a) English Language and Literature (3 years).

(b) Two languages, one of which must be Greek (2 years in each).

(c) Philosophy, including Psychology, Logic and Ethics (2 years).

(d) Two other subjects from the Arts curriculum, at the option of the student (1 year in each).

Compulsory Classes for Students Selecting Course No. 3.

(a) While under supervision of Presbytery, and engaged in preaching for two years:

English Bible: New Testament in Greek; Elements of Theology—Life of Christ; History of Missions; English Literature; Practical Training, including preparation of sermons.

(b) Four years of combined Arts and Theological Course in College.

The Arts Course.

English Language and Literature; Philosophy, including Psychology; Logic and Ethics; one language; and any one option from the Arts Course.

Theological Course.

Homiletics; Pastoral Theology; Systematic Theology; New Testament Languages and Literature; Old Testament Literature; (English Bible); Church History; Christian Ethics and Sociology.

By an arrangement with the University Senate a course in Biblical Literature is given which is open to students of the University and counts for credit on an Arts Course.

Hebrew.

For theological students in St. Stephen's College courses in Hebrew Language and Literature are offered which are accepted as credits towards the Arts degree. These courses are as follows:

1. **Elements of Hebrew.** 3 hrs.
Selected chapters from the book of Genesis. Textbook: Davidson's *Grammar;* Text, Kittel's *Biblia Hebraica.*

51. **Elements of Hebrew Syntax.**
Selected chapters from the historical books. Textbooks: Davidson's and Harper's *Syntax.* Kittel's text.
Prerequisite: Hebrew 1.

52. **Advanced Hebrew.**
Selected portions from the prophets and poets. *Hebrew Moods and Tenses,* Driver. Kittel's text.
Prerequisite: Hebrew 51.

Residence.

St. Stephen's College is located on the University grounds in a favourable relation to the University; the college possesses a building capable of housing over one hundred students.

ST. AIDAN'S COLLEGE

The college, operating under the authority of the Synod of the Anglican Diocese of Edmonton, was affiliated with the University of Alberta by resolution of the Senate, May 15, 1919.

AFFILIATED INSTITUTIONS

Information regarding courses may be obtained on application to the Warden, the Right Reverend Henry Allen Gray, M.A., D.D., LL.D., Bishop of Edmonton.

ST. JOSEPH'S COLLEGE

St. Joseph's College is centrally situated on the University Campus in a convenient relation to all the University buildings and has housing accommodation for one hundred students.

This College, established under the authority of the Roman Catholic Church, was affiliated with the University of Alberta by resolution of the Senate, May 13th, 1926.

Co-operating with the University, the College offers instruction in certain departments of the Faculty of Arts and Sciences.

A course in Religious Instruction for Catholic Students is offered in the College. General topics from Dogma and Moral are considered, while particular stress is laid on problems dealing with the professional ethics of Law and Medicine.

Besides the above course, there is offered in the College the following Senior Course, which has been accepted by the University Senate as one of the options from divisions A or B (see page 68).

Christian Apologetics.

A course covering such fundamental apologetic problems as the existence, nature and attributes of God; the nature of religion and revelation; man's origin and the Bible; the divinity of Christ; the institution of the Christian Church; relations between Church and State; the Church and Civilization; causes of indifferentism. The course is intended to fortify the layman against the loose thinking and scepticism of the day.

Information regarding courses and residential facilities may be obtained on application to:

Rev. Brother Rogatian, F.S.C., Rector.

Rev. Brother Memorian, Registrar.

THE PROVINCIAL INSTITUTE OF TECHNOLOGY AND ART

This institution situated in Calgary and operating under the authority of the Department of Education was affiliated with the University of Alberta by resolution of the Senate, May 13th, 1926. Information regarding courses may be obtained on application to the Principal, Dr. W. G. Carpenter.

AFFILIATED PREPARATORY SCHOOLS

Under the regulations of the Senate, preparatory schools and colleges which send students to the University Matriculation Examinations are affiliated with the University.

Under this arrangement the following are affiliated institutions:
Mount Royal College, Calgary.
Alberta College (North), Edmonton.
Llanarthney School for Girls, Edmonton.

Register of Students

SESSION 1929-30

A—Faculty of Arts and Sciences; Ag—Faculty of Agriculture; S—Faculty of Applied Science; Com—Commerce; Corr—Correspondence; D—Dentistry; Div—Divinity; H.Ec.—Household Economics: L—Law; M—Medicine; N—Nursing; PhmD—Pharmacy Degree; PhmL—Pharmacy Licence; SS—Summer Session.

c—conditioned student; p—partial student; s—special student; grad—graduate student; a—auditor. The numbers refer to the year of the course.

Aboussafy, A. ..... c PhmL 1
Adam, G. D. ..... S 2
Adams, J. D. ..... S 5
Adamson, Miss G. B. ..... A 3
Aiello, A. ..... A & M 2
Aiello, E. ..... c M 1
Aitken, H. D. ..... A 4
Alcock, L. W. ..... c Ag 3
Alexander, A. P. ..... S 2
Alexander, Miss H. F. ..... N 3
Alexander, H. J. ..... M 2
Alexander, K. F. ..... A 3
Alexander, L. L. ..... Com 3
Allan, R. F. ..... S 2
Allen, A. ..... A 3
Allen, J. C. ..... c A 1
Allen, S. V. ..... Com 3
Allin, Miss M. L. ..... A 2
Allison, W. S. ..... SS
Allyn, Miss J. M. ..... SS & M 1
Allyn, Miss L. G. ..... N 1
Amirault, D. J. ..... SS
Amundsen, Miss G. M. ..... H.Ec 1
Anderson, Miss B. I. ..... PhmD 2
Anderson, J. R. ..... c S 1
Anderson, L. ..... S 2
Anderson, W. S. ..... A & M 4
Archer, E. G. ..... c Ag 2
Archer, Miss J. B. ..... c N 1
Archer, Miss M. M. ..... A 4
Archibald, H. W. ..... A 2
Archibald, W. S. ..... M 4
Argue, Miss D. F. ..... A 2
Argue, G. H. ..... p A 4
Argue, K. F. ..... A 4
Armstrong, J. F. ..... c Com 1
Ash, C. L. ..... A & M 4
Ash, Miss L. E. ..... A 2
Asplund, J. W. ..... c S 1
Assheton-Smith, Miss M. B. ..c Com 2
Aitkin, Miss E. E. ..... A 3
Aunger, Miss E. G. ..... SS & A 1
Austin, E. ..... S 3
Avery, J. A. ..... PhmL 2
Aylesworth, J. A. ..... M 5
Aylesworth, Miss N. M. ..... SS

Badner, J. F. ..... SS
Baepler, W. A. ..... grad
Bainbridge, J. W. ..... Div
Bainbridge, R. ..... S 4
Bainbridge, W. ..... s
Baker, A. D. ..... A 1
Baker Miss E. E. ..... c A 1
Baker F. J. ..... s 2
Baker, H. E. ..... Com 1
Baker, H. W. ..... S 1
Baker, Miss N. B. ..... A 2
Balfour, J. ..... M 1
Ballachey, A. A. ..... c A & L 1
Banks, H. A. ..... D 2
Barclay, G. F. ..... Com 4
Bark, Miss F. ..... c A 2
Barnes, Mrs. F. ..... grad
Barnett, B. J. ..... M 5
Barnett, Miss E. ..... A 4
Barnhouse, F. W. ..... S 2
Barry, Sr. M. ..... SS
Batson, J. E. ..... S 3
Baxter, Miss K. ..... Com 2
Beach, H. H. ..... S 3
Beattie, Miss E. G. ..... A 3
Beauregard, J. A. ..... Com 2
Becker, D. F. ..... A & S 3
Becker, H. W. ..... A & S 3
Becker, Miss I. ..... Com 3
Becker, Miss M. B. ..... Corr
Bedingfield, Miss L. N. ..... N 1
Beggs, J. S. ..... S 4
Belkin, Miss M. ..... c A & M 2
Bell, Miss A. E. ..... A 2
Bell, Miss B. W. ..... A 2
Bell, Miss E. F. ..... c A 2
Bell, J. R. ..... c A 1
Bell, Miss M. W. ..... A 3
Bennett, C. V. ..... A & L 4
Benson, J. C. ..... A 4
Bentley, J. M. ..... Com 4
Bentley, N. N. ..... A & Ag 2
Berg, Miss A. R. B. ..... A 1
Bertheuson, Miss J. M. ..... A 2
Bickell, D. E. ..... SS
Biggs, G. A. ..... D 3

Bilton, J. A. .....Com 2
Birdsall, E. H. .....A 3
Bissell, Miss I. B. .....SS
Black, Miss J. L. .....A 4
Black, J. R. .....M 2
Blair, G. A. .....S 1
Blair, K. J. .....A 2
Blewett, Miss J. .....H.Ec 3
Blodgett, R. C. .....Com 2
Blundell, T. B. .....Corr
Boettcher, H. J. .....grad
Bogart, C. F. .....p Com 4
Boisvert, W. .....Ag 3
Bolton, Miss H. B. .....A 1
Bordon, Miss F. .....grad
Borgal, E. M. .....Corr
Borrowman, A. M. .....M 6
Borowsky, Miss E. P. .....N 1
Borys, A. .....c Com 1
Bothwell, S. A. .....S 4
Bottom, Miss D. .....A 1
Boulter, A. W. .....A & M 2
Bourque, P. .....S 4
Bowen, Miss E. R. .....A 3
Bowhey, C. W. .....M 2
Bowker, C. E. .....SS
Bowker, E. E. .....grad
Bowker, W. F. .....A & L 4
Bowlen, Miss M. H. .....H.Ec 4
Bowser, W. E. .....Ag 4
Boyce, A. C. .....M 4
Boykowich, M. H. .....D 5
Boyle, M. P. .....S 3
Bradley, J. C. .....c A 1
Bramley–Moore, W. .....M 5
Brander, D. F. .....A & M 3
Brandow, Miss W. M. .....A 2
Bray, Miss A. M. .....Corr
Brearley, G. G. .....M 6
Brennan, J. C. .....S 2
Brewer, R. G. .....grad
Bridge, J. W. .....M 4
Briese, R. G. .....S 3
Brocklebank, Miss A. V. .....A 2
Brodie, H. L. .....c A & M 2
Brodie, Miss M. J. .....N 1
Brooks, F. D. .....c Com 1
Brooks, W. H. .....A 3
Broughton, J. W. .....A 3
Brown, C. G. .....S 2
Brown, Miss D. F. .....A 2
Brown, G. E. .....A 4
Brown, G. H. .....D 5
Brown, H. K. .....D 5
Brown, J. C. .....A 3
Brown, J. F. .....c S 1
Brown, K. .....A 3
Brown, R. J. .....M 5
Brown, Miss R. L. .....grad
Brown, Miss R. M. .....A 2
Brunetto, Miss L. D. .....Corr
Brynildsen, R. K. .....M 5
Buchanan, G. J. .....S 2
Buchanan, J. R. .....S 1
Buk, N. .....S 5
Bull, Miss E. K. .....c A 2
Bulyea, Miss A. E. .....H.Ec 4
Burgess, A. .....A & L 2
Burgess, Miss E. E. .....SS & A 4
Burke, D. K. .....S 4
Burke, G. L. .....A & M 3
Burkholder, Miss I. A. .....H.Ec 2
Burnham, Miss M. H. .....c H.Ec 1
Burpee, D. M. .....S 2
Burris, S. M. .....M 5
Butler, J. M. .....Com 4
Butler, Miss M. D. .....Com 3
Byers, Sr. E. M. .....SS
Byers, J. M. .....M 2
Byrne, T. C. .....A 2
Cain, Miss J. A. .....A 3
Cairns, A. M. .....A 2
Cairns, E. A. M. .....M 2
Cairns, J. T. .....D 2
Cairns, K. .....PhmL 2
Calder, J. .....M 6
Calder, Miss M. E. .....A 4
Caldwell, H. L. .....A & D 2
Caldwell, Miss J. M. .....N 1
Caldwell, J. W. G. .....A & M 2
Calhoun, Miss D. M. .....SS & H.Ec 3
Calvert, Miss P. M. .....N 2
Cameron, D. .....Ag 4
Cameron, Mrs. D. .....SS
Cameron, Miss M. I. .....Corr
Cameron, W. L. .....A 1
Campbell, Miss A. I. .....N 1
Campbell, Miss B. M. K. .....H.Ec 3
Campbell, D. A. .....S 2
Campbell, G. D. .....c SS & A & M 1
Campbell, H. L. .....SS & Ag 4
Campbell, J. A. .....SS & p A 4
Campbell, Miss W. J. .....A 4
Canty, F. C. J. .....M 2
Carley, C. H. .....D 2
Carlson, G. A. .....c S 1
Carlyle, Miss J. .....c Com 1
Carlyle, R. E. .....c Ag 1
Carlyle, R. H. .....Ag 3
Carnat, M. .....M 2
Carnes, Miss M. H. .....L 3
Carpenter, Miss L. M. .....PhmL 2
Carr, S. F. .....A & M 3
Carruthers, W. K. .....S 2
Carscallen, A. N. .....Com 3
Carson, J. E. .....D 5
Carver, C. E. .....M 4
Cautley, Miss H. E. .....A 4
Caven, Miss M. L. .....A 3
Charlebois, Sr. B. M. .....SS
Charters, Miss A. M. .....Corr
Chamberlain, Miss D. G. .....H.Ec 4
Chambers, A. L. .....M 4
Chambers, R. .....S 2
Chant, J. M. .....Com 4
Charnetski, A. J. .....Ag 4
Cherniawsky, W. .....c Com 1
Chestnut, E. L. .....grad
Chilibecki, P. .....c Ag 1
Chisholm, L. .....M 5
Chisholm, Miss L. J. .....N 2
Chittick, H. F. .....A 4
Christie, R. B. .....c Com 2
Chritchley, H. F. .....Com 4
Cipperley, Miss M. .....SS
Clark, C. A. .....c A 1
Clark, Miss M. A. .....grad
Clark, J. W. .....c A 1
Clarke, T. R. .....c M 1
Clarkson, Miss L. I. .....A 3
Claxton, H. G. .....M 6
Clay, Miss D. J. .....c A 1

Clayton, Miss G. E. .....H.Ec 1
Clegg, A. H. .....Corr
Clement, C. W. .....L 2
Clement, Miss M. .....A 1
Clifgard, Miss E. J. .....A 4
Cogswell, Miss E. A. .....A 4
Cogswell, Miss M. A. .....A 2
Cogswell, Miss M. O. .....A 4
Cohen, T. .....L 3
Collicutt, Miss E. M. .....Corr
Collier, E. C. .....SS & A 2
Collier, Miss P. K. .....A 2
Collins, R. M. .....c S 2
Collison, D. B. .....M 3
Colman, F. S. .....D 3
Colpitts, D. A. .....A 2
Comfort, Miss A. M. .....A 4
Comfort, I. S. .....S 2
Comfort, J. B. .....A 4
Comfort, Miss M. M. .....c H.Ec 1
Condell, W. N. .....s
Conibear, K. W. .....A 4
Conibear, Miss M. R. .....A 4
Connelly, Miss J. I. .....Com 4
Connor, Miss E. K. .....Corr
Connors, Miss G. E. .....H.Ec 4
Convey, J. .....A 2
Cook, C. E. .....M 1
Cooper, E. H. .....c S 1
Cooper, Miss E. I. .....H.Ec 2
Cooper, H. G. .....A 1
Cooper, Miss S. E. .....A 3
Corbett, J. L. .....c Com 1
Cormack, J. S. .....L 2
Corneille, Miss E. A. .....L 3
Corneille, Miss M. L. E. .....A 2
Cory, T. R. .....c S 1
Cotsman, A. .....grad
Coughlan, R. L. .....A & M 2
Courtney, Miss D. R. .....Com 2
Cousineau, C. R. .....M 3
Cox, R. B. .....A 2
Craig, G. H. .....A & Ag 4
Craig, Miss H. K. .....L 1
Craig, W. R. .....S 2
Cram, E. J. .....M 4
Crane, C. O. .....c S 1
Crang, Miss M. T. F. .....A & L 4
Crath, B. .....S 5
Crawford, Miss C. H. L. .....SS
Crawford, Miss E. A. .....N 3
Creighton, T. K. .....c S 1
Cristall, Miss E. .....H.Ec 4
Crockford, M. B. B. .....grad
Croft, Miss R. K. .....N 3
Crosby, M. C. .....s
Cross, J. G. .....c Ag 3
Crucifix, Sr. M. du .....SS
Crux, N. W. G. .....SS & A 3
Cunningham, Miss R. E. .....c A 1
Currie, A. B. .....grad
Cushing, A. N. .....s
Cushing, Miss R. N. .....SS & A 3
Cutsungavich, W. D. .....M 3
Dale, J. G. .....S 3
Dale, J. C. .....S 4
Dalrymple, T. .....M 3
Danby, Miss A. P. .....N 1
Dandell, D. C. .....A 3
Dane, K. L. .....A 3
Davidson, A. E. .....M 5
Davidson, W. A. .....c A 1
Davies, F. R. .....Ag 4
Davis, Miss E. E. .....c H.Ec 1
Davis, Mrs. L. W. C. .....SS & Corr
Davis, R. C. .....S 2
Davis, S. .....A 2
Davison, A. .....A 2
Decker, G. E. .....D 3
Deeprose, W. A. .....Div
Deeton, Miss H. H. .....SS
DeLeeuw, H. G. .....A 1
Derkson, J. B. .....D 4
Derkson, W. H. .....D 4
Deverell, A. F. .....Corr
De Wynter, H. .....c A 2
Dey, C. W. R. .....S 2
Dick, Miss M. J. .....Corr
Dickson, Miss A. E. .....N 1
Dickson, Miss M. E. .....A 2
Dickson, Miss M. A. .....H.Ec 4
Dimock, H. C. .....M 5
Dionne, R. J. .....S 3
Dixon, Miss F. H. .....Corr
Dixon, Miss M. .....c H.Ec 2
Dobson, C. R. .....M 4
Doerksen, C. E. .....c M 1
Dolgoy, M. .....c A 1
Donald, E. F. .....M 1
Donnelly, F. E. .....Corr
Doughty, H. B. .....c A 2
Douglas, C. C. .....A 2
Douglas, E. W. .....M 3
Douglas, G. A. .....A & M 4
Douglas, Miss M. R. .....N 2
Downs, W. J. .....A & M 4
Drab, F. .....S 1
Drake, W. V. .....grad
Driscoll, D. J. .....S 2
Driscoll, Miss H. C. .....A 2
Driscoll, R. E. .....S 1
Drummond, W. A. .....M 4
Duggan, Miss A. F. .....H.Ec 2
Duggan, Miss G. L. .....H.Ec 4
Duggan, J. E. .....Com 1
Dumouchel, M. L. .....M 4
Dunbar, Miss M. C. .....N 1
Duncan, A. S. .....c A & L 1
Duncan, R. .....s
Dunham, B. .....M 2
Dunham, Miss D. D. .....H.Ec 3
Dunlap, Miss G. W. .....A 4
Dunlap, J. H. .....S 1
Dunlop, G. M. .....grad
Dunnigan, J. E. .....c PhmL 1
Durno, J. W. .....A 1
Durrell, Miss M. K. .....A 3
Eaglesham, J. .....Ag 3
East, E. N. .....A 1
Eastly, Miss O. I. .....N 1
Edwards, Miss E. O. .....c H.Ec 1
Edwards, E. R. .....S 2
Edwards, J. .....p A 4
Egy, Miss M. M. .....Corr
Elderkin, Miss B. .....SS
Elford, Miss E. C. .....A 2
Elliott, J. F. .....c A & M 2
Elliott, L. W. .....S 3
Elliott, W. S. .....c S 1
Elmore, Miss G. H. .....SS
Elves, H. R. .....S 5
Elves, Miss R. J. .....N 3

Emery, E. D. .....M 5
Emmett, F. J. .....M 4
English, S. R. .....A 2
Ennis, F. J. .....A 2
Erickson, E. L. .....S 1
Erickson, M. A. .....c S 1
Erlich, H. .....Ag 4
Esch, Miss I. D. .....c A 1
Esch, Miss K. .....SS
Esdale, Miss Q. M. .....N 3
Evans, Miss S. I. .....A 1
Evenson, A. B. .....A 2
Eversman, Miss L. C. .....A 4
Everest, C. J. .....c S 1
Fanset, J. F. .....A 2
Farrell, Miss L. J. .....A 2
Fawcett, G. G. .....Ag 4
Fawcett, Miss M. G. .....Corr
Fell, Miss M. .....N 2
Fenerty, R. L. D. .....A & L 3
Ferguson, Miss M. I. .....SS & A 2
Fergusson, Miss E. E. .....N 1
Field, G. S. .....grad
Field, P. A. .....A 2
Field, R. S. .....c S 1
Findlay, W. E. .....A 4
Fink, N. H. .....S 5
Finlay, G. R. .....Corr
Fish, H. W. .....c A & M 2
Fisher, Miss F. M. .....A & M 2
Fitzgerald, Miss M. E. .....Com 2
Fjell, Miss J. C. .....A 2
Fleming, D. C. .....SS & S 2
Flewelling, Miss M. D. .....A 2
Flyn, M. F. .....Corr
Forbes, G. H. .....D 4
Forbes, T. R. .....S 2
Forcade, Miss B. M. .....M 1
Ford, J. N. .....S 2
Ford, K. R. .....S 3
Forman, D. H. .....A 1
Forrest, C. C. .....c S 1
Foster, J. T. .....c PhmL 1
Foster, Miss M. P. .....A 2
Foster, Miss M. M. .....Com 2
Foster, W. R. .....grad
Foster, W. M. .....M 6
Foucar, H. G. .....c Com 2
Fowler, S. H. .....S 2
Fox, Miss C. .....SS
Fox, Miss K. D. .....A 2
Foy, E. F. .....A & M 3
Fraser, C. K. .....S 2
Fraser, H. B. .....S 2
Fraser, J. A. .....SS
Fraser, N. H. .....S 2
Fraser, R. A. .....PhmL 1
Fraser, S. D. .....D 5
Fraser, W. .....s
Frazer, F. H. .....Ag 2
Fream, G. .....Com 2
Freebury, Miss R. E. .....A 3
Freeman, Miss B. E. .....s
French, C. K. .....PhmD 3
French, G. C. .....grad
Fry, Miss D. .....Com 4
Fry, Miss G. A. .....p H.Ec 4
Fry, Miss R. E. .....A 2
Gaetz, H. T. .....A 4
Gaetz, Miss M. .....N 1
Galbraith, Miss E. R. .....A 2
Gale, F. T. .....S 2
Gale, P. .....c A 1
Garbutt, Miss A. .....H.Ec 2
Garbutt, Miss E. F. .....Com 1
Gardner, D. .....A 1
Gardner, H. H. .....S 3
Gardner, J. S. .....A & M 4
Gardner, L. D. .....Ag 1
Garrison, L. .....A 3
Garrow, Miss H. J. .....H.Ec 2
Garrow, P. .....c Ag 2
Gaudin, M. L. .....M 2
Geissinger, M. E. .....M 4
Gelmon, W. .....c A 1
Genik, I. .....SS
George, H. W. .....SS
Gereluk, Z. .....Corr
Ghent, Miss L. A. .....N 1
Gibbons, Miss I M. .....A 4
Gibbs, E. L. .....A & L 4
Gibbs, Miss M. C. G. .....A 4
Gibson, H. E. .....c M 1
Gidman, W. O. .....A 4
Gilbertson, Miss J. L. .....A 1
Gilchrist, Miss M. L. C. .....c A 1
Gimby, W. H. .....S 2
Ginther, W. L. .....SS & Corr
Gishler, Miss M. .....A 2
Gishler, P. E. .....SS & grad
Glasgow, R. R. M. .....M 2
Gold, W. J. .....S 2
Goode, L. C. .....S 2
Goodland, Miss D. I. .....H.Ec 2
Gordon, Miss A. G. .....A 4
Gordon, Miss J. M. .....H.Ec 2
Gordon, Miss M. J. .....N 2
Goshko, Miss J. T. .....c A 1
Goshko, M. .....Corr & S 1
Goshko, M. D. R. .....c S 1
Gough, B. .....A & M 3
Gould, R. W. .....SS
Gourlay, Miss G. J. .....H.Ec 2
Gourlay, Miss L. M. .....N 2
Gourlay, W. N. .....M 3
Gourley, H. D. .....A 4
Gourley, Miss I. .....N 1
Graham, Miss L. M. .....N 1
Grant, Miss A. I. .....SS & A 2
Grant, E. J. .....S 4
Grant, Miss G. M. .....N 1
Grant, R. A. .....Ag 4
Gravelle, Miss W. B. .....c A 1
Graves, L. W. .....S 1
Greig, F. E. .....Corr
Greig, Miss J. .....A 2
Greszchuk, P. .....A & L 3
Griffith, Miss E. M. .....H.Ec 4
Griffiths, P. .....SS
Griswold, A. W. .....PhmL 1
Guthrie, Miss A. B. .....N 1
Haan, Miss I. F. .....H.Ec 4
Haggith, C. B. .....c Ag 2
Hall, A. S. .....M 1
Hall, Miss M. .....Com 1
Hall, W. P. .....S 1
Halliday, C. .....Div
Halperin, M. .....M 5
Hamilton, Miss A. .....H.Ec 4
Hamilton, Miss D. I. .....s grad
Hamilton, G. C. .....S 2
Hamilton, Miss L. .....c H.Ec 1

Hamilton, R. C. M. .....M 5
Hamilton, R. W. .....Com 3
Hamilton, T. F. .....A 4
Hammond, Miss P. E. .....A 1
Hancock, W. F. .....D 3
Hango, Miss M. M. .....c A 2
Hanley, Miss F. A. .....SS
Hanley, Miss M. M. .....SS
Hannochko, F. .....A 3
Harback, F. R. .....Div
Harcourt, G. A. .....S 5
Hardin, B. H. .....A & D 2
Hardin, S. J. .....A & Ag 3
Harding A. D. .....S 4
Harding, R. B. .....grad
Hardisty, Miss M. .....s
Hardy, A. W. .....c M 1
Hargarten, B. W. .....M 5
Hargrave, H. J. .....Ag 2
Hargrave, Miss M. L. .....N 2
Hargrave, P. D. .....Ag 2
Hargrave, Miss W. H. .....A 3
Harmon, Miss A. M. .....c A 2
Harmon, T. R. .....A & M 2
Harragin, A. R. T. .....Corr
Harris, Miss A. J. .....N 1
Harris, Miss A. M. .....A 3
Harris, R. .....S 1
Hart, Miss E. A. .....H.Ec 3
Hart, Miss E. L. .....N 3
Hart, J. E. .....L 1
Hart, Miss P. M. .....A 2
Hart, T. .....Div
Hartley, Miss E. M. .....A 5
Harvey, Mrs. H. .....a
Harvie, Miss E. E. .....A 3
Harwood, R. U. .....s grad
Haugen, R. E. .....Ag 3
Hawker, T. .....D 3
Hawkes, Miss M. P. .....N 2
Hawkins, J. D. .....D 3
Hawkins, J. E. .....S 3
Hawley, Miss D. M. .....A 2
Hayashi, K. .....Corr
Hayes, H. R. .....S 3
Haythorne, G. V. .....A & Ag 4
Healy, D. M. .....A 3
Henal, M. .....Com 2
Hennig, Miss L. A. .....N 1
Henry, A. W. .....A 3
Henry, Miss D. A. .....c H.Ec 1
Henry, Miss N. M. .....H.Ec 3
Hepburn, Miss I. M. .....N 1
Hepworth, Miss B. A. .....N 1
Herreilers, J. H. .....SS & grad
Herron, H. F. .....A 2
Hess, F. A. .....Ag 2
Hettle, H. J. .....Corr
Hewson, J. C. .....c A 1
Hicks, H. S. .....grad
Hide, J. C. .....Ag 4
Higgs, Miss H. D. .....SS & grad
Hill, Miss D. K. .....grad
Hill, Miss M. E. .....N 1
Hilliker, J. E. .....c Com 2
Hills, G. R. .....c S 1
Hilton, Miss E. M. .....c A 1
Hirny, G. .....Com 2
Hitchin, E. .....M 2
Hobbs, A. W. .....L 3
Hobbs, F. S. .....M 4
Hocking, Miss J. L. .....H.Ec 2
Hodgins, E. W. .....PhmL 1
Hodgson, S. C. .....D 4
Hodgson, W. M. .....M 4
Hole, Miss A. R. .....PhmL 2
Hole, W. G. .....S 2
Holeton, R. O. .....c PhmL 1
Holgate, G. B. .....S 1
Holgate, W. T. .....S 5
Hollands, Miss H. E. .....A 2
Hollingsworth, C. M. .....SS & Com 2
Holloway, A. W. .....S 2
Holowaychuk, N. .....grad
Holmes, C. E. .....A & M 4
Holmes, R. W. .....c A 1
Holmgren, Miss N. .....A 2
Holz, O. L. .....Com 2
Home, Miss H. E. .....H.Ec 1
Honda, M. .....A 1
Hooper, S. W. .....A 2
Hoover, W. .....A 4
Hopkins, J. W. .....grad
Hord, Miss M. V. .....A 3
Hornby, E. A. .....M 2
Horton, E. W. .....Ag 2
Horyn, S. .....S 2
Howells, W. C. .....A 2
Howes, Miss J. E. .....c Ag 1
Hubbard, S. W. .....c S 1
Hubbs, Miss G. J. .....N 3
Hubbs, J. M. .....c Ag 1
Huckvale, W. S. .....A & M 3
Huculak, J. .....A 2
Hueston, Miss L. A. .....p A 4
Huget, Miss A. B. .....Corr
Huget, Miss N. M. .....Corr
Hughes, C. E. .....Ag 2
Hughes, J. .....SS
Hughes, R. .....M 1
Hungerbuhler, Miss M. .....A 3
Hunter, J. N. .....S 2
Hunter, Miss M. W. .....SS
Hurdle, H. L. .....S 2
Huse, P. O. .....c A 2
Hutchinson, W. .....A 2
Hutchison, H. .....c A 1
Hutton, H. H. .....Com 4
Hutton, H. W. .....Ag 1
Huxley, P. D. .....Ag 3
Iles, G. N. .....A 2
Inglis, H. F. .....M 2
Innes, D. R. .....grad
Ireland, W. J. .....S 2
Ivanitsky, O. .....S 1
Ivanitsky, V. .....Ag 1
Ives, W. B. .....S 1
Jackman, C. W. .....c A 1
Jackson, C. J. .....Ag 1
Jackson, K. A. .....S 3
Jackson, Miss M. A. .....A 2
Jackson, R. W. .....c A 1
Jacobs, H. C. .....Corr
Jacobson, L. A. .....c A 1
Janzen, W. E. .....D 4
Jeffrey, J. S. .....S 2
Jellis, W. H. S. .....Ag 4
Jennejohn, Miss E. M. .....A 2
Jennejohn, N. R. .....c A 2
Jensen, Miss H. .....Com 3
Jespersen, R. E. .....A & M 4
Jobe, W. .....A 2

Joffe, Miss M. ..... A 2
Johanson, A. N. ..... M 3
Johnson, C. A. ..... c S 1
Johnson, C. B. ..... A 2
Johnson, L. P. V. ..... Ag 4
Johnston, Miss A. E. ..... A 2
Johnston, A. ..... M 4
Johnston, F. D. ..... M 6
Johnston, G. C. ..... M 6
Johnston, Miss M. A. ..... N 1
Johnston, W. H. ..... Ag 3
Johnstone, Miss I. E. ..... H.Ec 4
Johnstone, Miss M. ..... A 2
Jones, E. M. ..... A 4
Jones, L. D. ..... S 2
Jones, Miss L. A. ..... A 4
Jordan, E. C. ..... p A 1
Joyce, Miss A. F. ..... M 4
Judd, Miss E. M. ..... H.Ec 2
Kalancha, W. ..... A 2
Kamitakahara, H. ..... M 4
Karpoff, T. M. ..... A 2
Kastner, M. D. ..... H.Ec 1
Keel, M. H. ..... c A & M 1
Keillor, Miss K. ..... N 1
Kelley, H. V. ..... M 1
Kellner, Miss J. K. ..... N 2
Kelz, V. C. ..... A 4
Kemmis, Miss S. O. ..... Com 2
Kendal, P. J. ..... D 1
Kendrew, G. R. ..... A 2
Kennedy, F. J. ..... A 2
Kent, Miss P. M. ..... Corr
Kent, W. L. ..... S 4
Kenway, C. B. B. ..... p A 1
Kerr, Miss M. D. ..... A 4
Ketchum, Miss I. H. ..... A 2
Kibblewhite, E. J. ..... SS & grad
Kickham, L. A. ..... M 5
Kilduff, T. ..... grad
Killick, W. H. ..... PhmL 1
Kinahan, V. F. ..... S 2
Kindraka, P. E. ..... S 1
Kindt, A. J. ..... grad
King, Miss G. E. ..... PhmD 4
King, Miss N. ..... c H.Ec 1
King, W. E. W. ..... c Ag 2
Kinnear, G. S. ..... S 2
Kirkpatrick, G. N. ..... SS & A & L 2
Kittlitz, Miss E. ..... A 2
Klasen, E. J. ..... D 1
Kneen, E. ..... Ag 3
Kneeshaw, Miss E. ..... H.Ec 1
Knight, J. H. ..... A 2
Knight, T. ..... Com 4
Knowlan, Miss J. I. R. ..... A 4
Kocher, W. J. ..... S 4
Koenig, B. J. ..... A 1
Kohnke, H. ..... grad
Kolotyluk, G. ..... c S 2
Kopta, Miss J. F. ..... Com 1
Kopta, Miss M. J. ..... Com 1
Korczynski, Miss M. A. ..... A 2
Kosier, K. E. A. ..... S 2
Kostash, H. A. ..... grad
Kostash, J. F. ..... S 5
Kostash, L. L. ..... A 1
Kostash, M. ..... S 2
Kostash, W. ..... Com 3
Kremer, Miss L. E. ..... c PhmL 1
Krull, P. J. ..... c S 1
Kulak, J. ..... SS
Kumagai, P. S. ..... A & M 2
Kunst, A. E. ..... S 1
Kurimoto, Y. ..... A 4
Kuwabara, E. H. ..... M 2
Kvale, O. ..... D 4
Kyle, D. S. A. ..... SS
L'Abbe, Miss G. A. ..... A 1
Lalonde, E. D. ..... c A 1
Lambert, A. P. R. ..... c PhmL 1
Lambly, J. N. ..... M 1
Landels, Miss I. ..... A 4
Lang, Miss M. G. ..... H.Ec 3
Lantz, A. W. ..... Ag 3
Large, J. E. ..... p A 1
Large, J. M. ..... M 6
Lasher, W. M. ..... Ag 2
Latam, Miss V. W. ..... H.Ec 4
Lavender, L. H. ..... A & M 2
Lawford, Miss G. M. ..... c PhmL 1
Lawrence, Miss A. R. ..... c A & M 1
Lawrence, T. J. R. ..... SS
Lawrence, W. G. C. ..... S 2
Layton, Miss C. E. ..... H.Ec 2
Lazarenko, J. M. ..... c A 1
Lazarowich, P. J. ..... L 2
LeBlanc, R. ..... A 1
Lee, Miss E. M. ..... H.Ec 2
Lee, R. H. ..... S 2
Lees, Miss E. ..... c SS & M 1
Lees, G. M. ..... S 3
LeFebvre, C. ..... M 1
Lerbekmo, L. H. ..... Corr
Lefsrud, I. ..... M 5
Leger, F. J. ..... A 4
Lehane, J. J. ..... c Ag 4
Lehmann, Miss M. G. ..... grad
Leighs, C. H. ..... S 4
Lemiski, P. ..... A 1
Lepine, A. ..... M 1
Lesk, L. ..... M 5
Lester, C. W. ..... S 2
Levy, J. R. ..... Corr
Lewin, Miss B. G. ..... A 3
Lilge, E. O. ..... S 2
Lindberg, E. B. ..... Corr
Linke, Miss B. E. ..... SS & A 2
Liskear, M. ..... S 4
Litster, J. C. ..... S 5
Little, Miss G. R. ..... grad
Little, W. C. ..... Ag 4
Livingstone, Miss M. M. ..... A 3
Lobell, H. R. ..... M 6
Loeblick, C. M. ..... Corr
Loftus, G. A. ..... c A & L 1
Loggin, Miss M. ..... N 2
Long, G. S. ..... M 3
Long, R. M. ..... c A & M 2
Lopston, O. ..... M 2
Lord, Miss K. ..... N 2
Losie, Miss B. ..... H.Ec 4
Lovatt, A. N. ..... S 2
Lowle, R. W. P. ..... c S 1
Lowther, G. K. ..... S 4
Lucas, J. W. ..... S 5
Luco, M. J. ..... c S 1
Luxton, Miss E. G. ..... A 4
Lynch–Staunton, J. ..... L 1
Lynn, S. C. ..... S 5
Lyons, B. H. ..... M 5
McAfee, Miss V. A. E. ..... c A 2

McAllister, R. E. .....Ag 3
McAnally, Sr. E. .....SS
McAndrew, R. T. .....S 4
MacArthur, C. A. .....c A 1
McArthur, Miss H. G. W. .....N 1
MacArthur, J. G. .....M 4
McArthur, P. D. .....S 4
McAthey, W. L. .....c A & M 1
Macaulay, J. I. .....H.Ec 1
Macaulay, M. G. .....M 4
McBain, Miss D. C. .....A 4
McBain, Miss P. A. .....N 2
Macbeth, J. M. .....S 2
McCaig, Miss A. M. .....A 4
McCaig, Miss H. E. .....H.Ec 3
McCalla, A. G. .....grad
McCallum, D. L. .....SS
McCallum, H. .....S 1
McCallum, J. N. .....c S 1
McCallum, M. G. .....M 5
McCarthy, Miss P. E. .....N 1
McCaskill, Miss R. C. .....N 1
McCleary, C. H. .....SS
McClintock, W. N. .....S 4
McColl, Miss M. E. .....Corr
McComb, Miss N. M. .....PhmL 2
McConachie, Miss P. .....N 1
McConkey, A. S. .....M 1
McConkey, Miss K. F. .....grad
McConnell, J. B. .....S 2
McConnachie, Miss N. F. .....N 1
McCormick, J. P. J. .....A & M 2
McCourt, E. A. .....A 3
McCulloch, Miss N. F. .....H.Ec 2
McDannold, W. H. .....A 4
McDermid, Miss M. L. .....c A 2
McDermid, N. D. .....A & L 2
McDonald, A. R. O. .....A 3
McDonald, J. .....A 3
Macdonald, J. S. .....c PhmL 1
MacDonald, L. G. .....c S 1
Macdonald, N. .....c A 1
McDonald, T. W. .....SS
McDonald, Miss V. F. .....Corr
MacDonald, W. S. .....A 2
McDonnell, M. W. .....A 1
McDougall, J. F. .....S 5
McDougall, Miss M. K. .....A 2
McEachern, Miss C. S. .....SS
McEachern, M. D. .....SS
McElroy, L. W. .....Ag 1
McEwen, Miss H. B. .....H.Ec 2
McFarland, H. A. .....SS & p A 3
McGill, A. F. .....A 4
McGill, Miss E. J. .....A 1
McGill, W. A. .....Com 1
McGowan, H. S. .....S 1
Macgregor, J. W. .....M 6
McInnes, N. D. .....grad
McIntyre, D. V. .....S 5
McIntyre, W. P. .....A 3
MacIver, Miss E. .....p A 3
McIvor, Miss M. I. .....H.Ec 2
MacIsaac, R. U. G. .....grad
McKay, J. A. .....grad
MacKay, G. W. .....A & M 4
McKeage, R. M. .....S 2
McKee, R. A. .....A 3
McKeen, H. L. .....A & M 3
MacKenzie, D. B. .....L 3
McKenzie, Miss E. C. .....SS
MacKenzie, Miss E. L. .....H.Ec 2
MacKenzie, Miss H. D. .....N 2
McKenzie, J. P. .....grad
McKenzie, J. F. .....S 1
McKenzie, Miss L. B. .....A 2
McKenzie, R. B. .....S 3
McKenzie, W. .....grad
MacKie, H. A. .....A & L 2
MacKillican, J. M. .....c A & L 1
McKim, A. B. .....p A 3
McKim, C. F. .....A & L 2
McKinnon, Miss E. M. .....SS & H.Ec 3
McKinnon, L. G. .....A & M 2
McKowan, Miss A. L. .....H.Ec 3
McLaren, Miss B. A. .....A 4
McLaggan, Miss M. E. .....SS & H.Ec 2
McLaren, S. C. .....S 4
MacLaren, W. H. R. .....A & L 4
MacLaren, V. I. .....S 3
McLatchie, Miss U. .....p PhmD 4
McLean, A. T. .....A & L 4
McLean, A. .....c A 1
McLean, G. .....Corr
McLean, J. H. .....SS
McLean, N. D. .....S 3
MacLean, T. K. .....M 6
MacLeay, Miss K. M. .....A 2
MacLeay, Miss G. M. .....Ag 1
Maclennan, A. H. .....M 4
MacLennan, J. A. .....L 1
Macleod, Miss M. A. .....A 4
McLeod, N. D. A. .....Div
McLeod, N. W. .....S 5
McLurg, J. J. A. .....A & M 4
McMahon, Miss D. J. .....H.Ec 2
McMahan, Miss V. I. .....A 3
McManus, L. H. .....Corr
McMurtry, Miss E. .....Corr
McNabb, D. R. .....D 2
MacNabb, Miss J. J. .....grad
MacNabb, Miss I. M. .....grad
McNeil, Miss H. C. .....p A 4
MacNeill, V. H. .....Grad
McPherson, J. C. .....M 3
McPherson, K. C. .....Corr
McPherson, R. C. .....S 3
McQuillan, R. C. .....D 4
McRae, C. E. .....M 4
McShane, K. E. .....A 4
Madill, J. S. .....M 5
Magoon, Miss D. A. .....SS & A 2
Mahaffy, Miss C. E. .....M 6
Mahaffy, Miss H. E. .....H.Ec 2
Malcolmson, Miss N. B. .....s
Mangan, Miss M. M. .....H.Ec 1
Manning, Miss M. .....N 1
Manning, M. E. .....A 5
Manning, Miss M. G. .....A 2
Manson, Miss A. E. .....A 2
Margolis, E. T. .....A 2
Marritt, J. W. .....s
Marsden, Miss E. R. .....Corr
Marshall, D. .....c Ag 2
Marshall, J. C. M. .....SS
Martin, Miss C. .....Corr
Martin, Miss D. .....N 2
Martin, Miss F. .....SS
Martin, Miss G. .....SS
Martin, R. G. .....M 3
Matheson, H. .....Com 2
Mather, H. J. .....Ag 2

Matthews, Miss M. A.....c H.Ec 1
Maxwell, Miss B. I. .....grad
May, Miss W. M. .....Corr
Maybank, E. R. .....Corr
Maynard, L. .....L 2
Mayo, Miss D. M. .....A 2
Mead, W. H. T. .....Ag 2
Meadows, W. A. .....M 4
Meakin, J. .....c S 1
Meech, G. S. .....c S 1
Meiklejohn, K. B. .....Corr
Melling, T. .....M 5
Mellon, F. C. .....A 2
Melnyk, Miss M. .....N 1
Menzies, D. B. .....S 4
Messervy, Miss E. M.....c Com 1
Meyer, Miss E. C. .....A 4
Miles, Miss M. I. .....Corr
Millar, A. G. .....PhmL 1
Millar, H. H. .....Com 2
Miller, F. .....S 4
Miller, G. A. .....S 2
Miller, H. .....c A 1
Miller, H. E. .....c S 1
Miller, Miss L. .....A 4
Miller, Miss L. V.....Corr
Milligan, J. R. .....Ag 3
Milligan, R. J. .....SS & Ag 4
Mills, Miss A. V. .....A 2
Milne, Miss H. I. .....grad
Milner, S. .....A & L 3
Miquelon, R. R. .....A & S 1
Misener, G. D. .....s grad
Miskew, J. W. .....M 4
Moe, M. .....A 1
Mohler, Miss G. L. .....A 3
Moisey, W. A. .....Ag 3
Montgomery, W. G. .....Com 3
Moody, G. E. .....S 5
Mooney, J. H. .....S 3
Moore, A. G. .....s
Moran, N. R. .....Com 4
Morell, L. D. .....L 1
Morris, H. E. .....grad
Morris, I. .....A 2
Morris, J. .....S 5
Morrison, Miss E. A. .....s
Morrison, Miss H. .....A 2
Morrison, H. W. .....A 4
Morrison, Miss J. .....A 2
Morrison, L. H. .....A 1
Morrison, Miss M. E. .....Com 4
Morton, H. .....Com 2
Mosby, Miss S. E. .....A 2
Moscovich, B. .....M 2
Moscovich, S. S. .....L 2
Moyle, Miss J. .....Corr
Muir, Miss D. B. .....Com 2
Mulholland, Miss G. R. .....M 2
Mullett, Miss G. H. .....A 5
Mulligan, Miss M. .....SS
Murphy, D. J. .....M 5
Murphy, E. C. .....M 1
Murray, D. W. .....c S 1
Murray, J. E. .....Com 3
Murray, J. M. .....c Ag 3
Murray, Miss S. .....N 2
Nash, Miss K. M. .....c A & M 2
Neely, G. .....Ag 3
Neely, V. M. .....PhmL 2
Neil, J. S. .....S 5
Nelson, S. R. C. .....M 2
Nesbitt, Miss I. V. .....H.Ec 3
Ness, Miss B. A. .....A 2
Neveczis, W. S. .....M 5
Newcombe, H. L. .....M 4
Newell, Miss E. F. .....Com 1
Newlove, T. V. .....A 4
Newman, W. C. .....S 2
Newson, Miss D. A. .....M 5
Newton, Mrs. E. R. .....A 4
Newton, Miss E. M. .....c H.Ec 1
Newton, J. G. .....A & L 1
Newton, Miss M. F. .....Corr
Nicholls, Miss M. E. O.....SS & A 3
Nichols, L. .....Corr
Nichols, Miss M. L. S.....A 3
Nichols, W. J. .....A & Ag 3
Nikiforuk, W. .....M 2
Nix, C. E. .....S 4
Nixon, J. R. .....M 1
Noble, G. C. .....c Ag 3
Noble, C. E. .....S 5
Noblitt, H. L. .....Corr
Nolan, Miss B. E. .....Corr
Nykiforuk, N. .....M 2
Oatway, O. L. .....A 1
Obee, C. G. .....Ag 4
O'Brien, E. E. .....S 1
O'Brien, J. C. .....M 2
Odynski, W. .....Ag 2
Ogilvie, P. I. .....S 4
Oke, Miss O. E. A. .....A 3
Olive, A. P. .....S 3
Oliver, S. L. .....D 3
Oliver, Miss Z. J. .....A 3
Olsen, A. M. .....S 4
Olsen, G. M. .....D 3
Olsen, Miss S. .....SS & A 2
Olson, Miss R. E. .....SS
O'Meara, G. W. G. .....SS
O'Neill, A. J. .....A & D 4
O'Neill, N. C. .....Corr
Onischuk, N. .....D 3
Onofreyo, Miss M. .....grad
Orr, W. A. .....S 3
Osborn, D. C. .....p A 1
Osborne, D. J. F. .....M 3
Oswald, J. M. .....A & M 4
Ougden, F. H. .....A 4
Ovans, Miss D. F. .....A 1
Overand, D. L. .....c PhmL 1
Overbaugh, S. C. .....A 4
Pacy, C. C. .....PhmD 1
Paddon, K. G. .....Com 3
Padwick, G. W. .....Ag 3
Paege, F. C. .....A 2
Panar, S. .....S 1
Parker, C. W. .....Corr
Parker, E. R. .....p A 2
Parker, Miss E. .....N 1
Parker, Miss V. M. .....N 1
Parlee, J. C. .....S 2
Parlee, W. O. .....A & L 4
Parsons, A. N. .....A 3
Parsons, W. B. .....A & M 4
Part, J. J. .....S 2
Patrick, J. W. N. .....Com 3
Pattersen, G. N. .....S 4
Patton, Miss F. A. .....A 2
Patton, G. O. .....M 1
Pattullo, Miss C. B. .....SS

Paul, A. D. .....c Ag 4
Pauly, A. J. .....M 3
Peacock, L. H. .....Ag 1
Pearl, D. .....M 2
Peattie, R. M. .....A 1
Pechet, M. .....S 1
Peck, O. .....Ag 3
Pedersen, R. E. .....S 2
Peffers, W. O. .....S 5
Pekarsky, L. .....L 2
Pepper, J. H. .....Ag 3
Perrie, D. W. .....S 2
Perry Miss M. E. .....N 1
Peterson, Miss C. I. .....Corr
Petit, E. M. .....A 3
Peto, F. H. .....grad
Petruk, A. J. .....c Ag 1
Pettit, W. .....s
Pharis, Miss G. M. .....A 2
Phillips, S. J. .....A & S 2
Pidoux, J. L. .....S 3
Piercy, B. .....Corr
Pilkington, W. .....SS
Pillman, L. L. .....Corr
Pinchbeck, G. R. .....S 4
Pinkney, J. F. R. .....Com 3
Pinsky, M. .....A & L 2
Pitcher, P. N. .....S 2
Pitfield, B. W. .....A 1
Plishka, Miss M. A. .....N 1
Polomark, M. J. .....D 1
Poole, W. H. .....p A 4
Poole, W. R. .....S 2
Popowich, J. .....c S 1
Porter, Miss H. P. .....A 4
de Portugal, Sr. Se. J. .....SS
Powell, A. J. H. .....A 4
Powell, C. D. .....A 2
Powell, Miss M. G. .....A & M 4
Powell, Miss M. .....SS & A 4
Powell, T. .....grad
Pratt, Miss H. M. .....H.Ec 3
Pratt, J. C. .....S 3
Prevey, Miss R. B. .....H.Ec 2
Prevey, W. H. .....S 1
Price, J. E. .....c Ag 3
Priestley, F. E. L. .....A 4
Prieur, G. .....M 2
Prior, F. J. .....c S 1
Procter, R. C. .....S 2
Prokop, F. .....Com 3
Pullishy, W. .....Ag 1
Putnam, R. M. .....A 3
Pyke, Miss M. C. .....H.Ec 2
Pylypiuk, J. A. .....A & M 3
Pyrcz, C. .....A & L 3
Quehl, E. .....D 1
Rabkin, Miss E. .....S 1
Race, Miss M. B. .....A 2
Race, W. D. .....A 3
Rader, L. .....S 2
Ramelson, B. .....S 2
Ramsay, Miss J. I. .....H.Ec 1
Ramsey, H. S. .....S 1
Rands, E. .....A 2
Rands, S. .....A 3
Rawlinson, R. P. .....A & M 4
Read, E. H. .....L 2
Redding, H. D. .....c D 1
Reed, Miss D. H. .....Com 1
Reed, Miss J. A. .....Com 3
Reiber, H. G. .....grad
Reid, Miss E. R. .....Corr
Reid, Miss H. E. .....M 1
Reid, J. .....S 2
Reid, J. L. .....Com 1
Reikie, M. K. T. .....S 3
Reynolds, L. G. .....A 4
Richardson, Miss D. .....A 2
Richardson, E. A. .....M 5
Richardson, Miss M. .....A 1
Richardson, R. E. .....A 5
Ricker, H. B. .....A 4
Rieger, T. F. .....c A 1
Riley, Miss D. E. .....A 2
Riley, Miss H. M. .....A 4
Riordan, Sr. M. A. .....SS
Riskin, S. .....D 3
Ritchie, Miss L. M. .....Corr
Robbie, G. F. .....M 2
Robbins, C. C. .....grad
Roberts, Miss J. L. .....c PhmD 2
Roberts, Miss M. .....A 2
Robertson, Miss A. M. .....c A 1
Robertson, G. .....S 2
Robertson, G. W. .....c A 2
Robertson, H. T. .....s grad
Robertson, Miss M. E. L. .....A 1
Robertson, Miss R. B. .....N 2
Robertson, Miss W. D. .....c PhmL 1
Robins, Miss A. M. .....SS & A 2
Robinson, C. A. .....SS
Robinson, C. C. .....c Ag 3
Robinson, Miss V. B. .....SS
Robinson, W. C. .....c A & M 2
Robson, W. J. .....S 3
Rock, P. J. G. .....c Ag 2
Rogers, H. B. .....SS
Rogers, Miss S. .....A 4
Rollis, O. H. .....A 3
Ropchan, Miss A. .....A 1
Rose, G. H. .....A & L 3
Rose, R. C. .....Ag 2
Rosborough, A. E. .....grad
Roseborough, Miss M. M. .....A 5
Rosher, W. F. .....M 5
Ross, D. W. M. .....S 5
Ross, D. G. .....A 2
Ross, D. R. .....M 3
Ross, H. R. .....A 3
Ross, Miss H. M. M. .....A 5
Ross, J. D. .....c A & M 1
Ross, Miss K. M. .....N 3
Roth, Miss I. H. .....A 2
Rothney, J. W. M. .....A 4
Roxburgh, D. B. .....M 4
Roxburgh, W. G. .....A 2
Roy, Miss J. .....SS
Rule, J. U. .....A 4
Rushworth, Miss R. .....A 2
Ruskin, H. .....c A 1
Ruzicka, J. R. .....Corr
Ryan, R. W. .....grad
Saddington, A. W. .....grad
Sage, Miss C. E. .....N 1
Salt, Miss M. C. .....A 2
Salt, R. W. .....A 4
Sametz, P. .....A 1
Samoil, S. D. .....Corr
Sansbury, C. .....A 2
Saucier, Miss L. J. .....A 4
Savage, H. R. .....SS & L 3

Schmaltz, S. M. ..... M 4
Schneider, B. ..... S 3
Schrag, A. R. ..... M 2
Schwermann, A. H. ..... grad
Scott, H. ..... M 4
Scott, Miss I. D. ..... Corr
Scott, Miss L. J. ..... A 2
Scott, N. L. ..... S 3
Scott, W. A. ..... A 4
Seaman, Miss F. E. ..... c Com 1
Selby, C. C. ..... S 2
Sellhorn, Miss M. ..... A 4
Semeniuk, G. ..... Ag 2
Semmens, G. C. ..... A & S 2
Sereda, J. ..... Ag 1
Sereda, W. ..... PhmD 3
Sestrap, Miss E. M. ..... A 1
Sestrap, Miss L. ..... M 3
Settle, W. R. ..... A 2
Shabaz, R. ..... grad
Shandro, W. A. ..... M 3
Shandruk, Miss G. ..... N 1
Shanks, Miss M. S. ..... grad
Sharp, Miss F. E. ..... Corr
Sharp, W. G. ..... S 2
Shaver, Miss A. M. ..... grad
Shaw, Miss J. ..... H.Ec 3
Shaw, Mrs. M. D. ..... p A 4
Shaw, Miss O. J. ..... SS & grad
Shearer, B. W. ..... A 2
Shearer, J. K. ..... Com 2
Sheldon, Miss H. L. ..... N 3
Sheppy, Miss B. ..... A 2
Sheppy, J. I. ..... A 3
Sherwood, H. M. ..... S 2
Shillington, Miss E. E. ..... Com 2
Shimokura, H. M. ..... M 4
Shortreed, Miss M. K. ..... A 1
Sieber, L. G. ..... A 4
Sigler, D. ..... L 2
Sillars, Miss A. ..... SS
Sillitoe, S. ..... S 4
Simons, F. W. ..... S 4
Simonson ,Miss A. L. ..... Corr
Simpson, Miss M. S. ..... grad
Sinclair, G. ..... S 2
Sinclair, J. M. ..... Corr
Skeith, R. H. ..... Ag 2
Skitch, A. J. ..... p A 3
Skitch, C. H. ..... M 6
Sloane, Miss I. J. ..... N 3
Sloane, Miss M. ..... p A 4
Small, J. A. ..... Com 4
Smith, Miss C. E. ..... A 4
Smith, D. B. ..... S 1
Smith, E. L. ..... S 5
Smith, E. T. ..... A 2
Smith, F. M. ..... A 4
Smith, G. E. ..... SS
Smith, G. M. ..... S 1
Smith, Miss H. E. ..... H.Ec 1
Smith, Miss H. M. ..... A 2
Smith, H. W. ..... A 3
Smith, L. ..... S 1
Smith, L. V. ..... grad
Smith, Miss M. A. ..... PhmL 1
Smith, Miss M. H. ..... A 2
Smith, Miss V. L. ..... N 2
Smith, W. A. ..... S 3
Smith, W. G. ..... grad
Smolensky, J. ..... Com 1
Snelson, H. E. ..... c S 1
Snyder, B. W. ..... S 4
Solberg, M. A. ..... Com 3
Sorenson, Miss G. ..... grad
Sorenson, Miss H. ..... A 4
Souch, B. E. ..... S 4
Souch, Miss E. V. ..... H.Ec 2
Souther, Miss M. E. ..... N 1
Spaner, S. ..... c A & M 1
Sparby, H. T. ..... Corr
Sparks, F. P. ..... M 3
Sparling, J. F. ..... M 2
Sprague, W. H. ..... c PhmL 1
Sproule, Miss D. A. ..... A 4
Sproule, D. O. ..... SS
Sproule, J. C. ..... A 5
Stafford, H. D. ..... SS
Stainton, T. J. ..... grad
Stanley, G. E. ..... M 4
Stanley, T. D. ..... S 3
Starkie, Miss A. ..... A 4
Stauffer, C. E. ..... A 2
Steele, Miss M. ..... N 1
Steele, Miss P. L. ..... M 2
Steeves, H. R. ..... c PhmL 1
Stephens, C. W. ..... M 6
Stephens, Miss E. A. ..... A 2
Stephens, H. H. ..... M 4
Stephenson, Miss D. J. ..... N 1
Stephenson, Miss M. M. ..... A 3
Sterling, J. E. W. ..... grad
Stevenson, Miss J. H. G. ..... A 2
Stewart, A. G. ..... A 4
Stewart, D. R. ..... c D 1
Stewart, Miss E. I. ..... N 1
Stewart, Miss M. I. ..... H.Ec 1
Stewart, N. A. ..... M 3
Stewart, R. E. ..... grad
Stewart, W. R. ..... p A 3
St. Germain, G. ..... L 1
Stibbards, Miss E. L. ..... c H.Ec 1
Stickney, W. J. ..... S 2
Stocks, A. H. ..... c PhmL 1
Stoddart, J. ..... S 3
Stone, Miss D. A. ..... A 2
Stone, W. C. ..... c Ag 3
Story, G. L. ..... S 5
Strachan, J. ..... L 2
Strangways, Miss B. H. ..... H.Ec 3
Strashok, M. F. ..... c Ag 2
Stringan, B. W. ..... c A & L 2
Strohan, R. E. ..... M 5
Strome, W. ..... A & M 2
Stronach, A. S. ..... A & M 3
Strong, C. G. ..... A 2
Studholme, Miss B. G. ..... H.Ec 2
Sugamori, Miss P. H. ..... M 2
Suitor, W. D. ..... S 3
Surplis, H. D. ..... A 4
Svarich, E. W. ..... M 3
Swift, W. H. ..... grad
Swinarton, J. C. ..... PhmL 1
Tait, G. W. C. ..... A 2
Takahashi, K. ..... c Ag 3
Tanner, H. E. ..... grad
Tarver, H. ..... A 3
Tatham, J. G. ..... S 3
Tatham, W. C. ..... c S 1
Taylor, C. K. ..... M 5
Taylor, Mrs. D. ..... p A 4
Taylor, D. A. ..... A 2
Taylor, Miss D. I. ..... Corr
Taylor, J. A. ..... c M 2

Taylor, J. E. .....Corr
Taylor, R. C. .....grad
Tellier, L. R. .....L 3
Terrill, Miss M. P. .....A 1
Teskey, M. F. .....grad
Thibodeau, Miss B. .....SS
Thom, Miss C. J. .....A 2
Thomas, O. P. .....Corr
Thompson, Miss A. G. .....SS
Thompson, F. R. .....S 3
Thompson, H. .....SS
Thompson, H. M. .....Ag 1
Thompson, J. G. .....Corr
Thompson, Miss M. I. .....c N 1
Thompson, W. G. .....PhmD 2
Thompson, Miss Z. M. .....H.Ec 3
Thomson, Miss B. .....grad
Thomson, Miss O. M. .....p A 3
Thomson, R. K. .....M 5
Thorpe, A. .....A 4
Thorsen, M. T. .....Ag 3
Tingle, C. N. .....A & L 4
Tkachuk, W. .....A 2
Tobiasson, K. A. .....c A 1
Toby, Miss F. I. .....A 1
Tollington, G. C. .....S 3
Torrie, A. M. .....A & M 3
Torrie, D. F. T. .....c PhmL 2
Torrie, J. H. .....Ag 3
Trace, Miss L. E. .....Corr
Tracy, J. M. .....SS
Trefiak, N. .....S 2
Trenholm, W. A. .....M 3
Trout, H. B. .....SS
Trowbridge, E. B. .....M 4
Tuck, J. A. .....A 2
Turner, A. S. .....Com 3
Turner, H. R. .....D 2
Tuttle, M. J. .....A 2
Twomey, C. A. .....A 1
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